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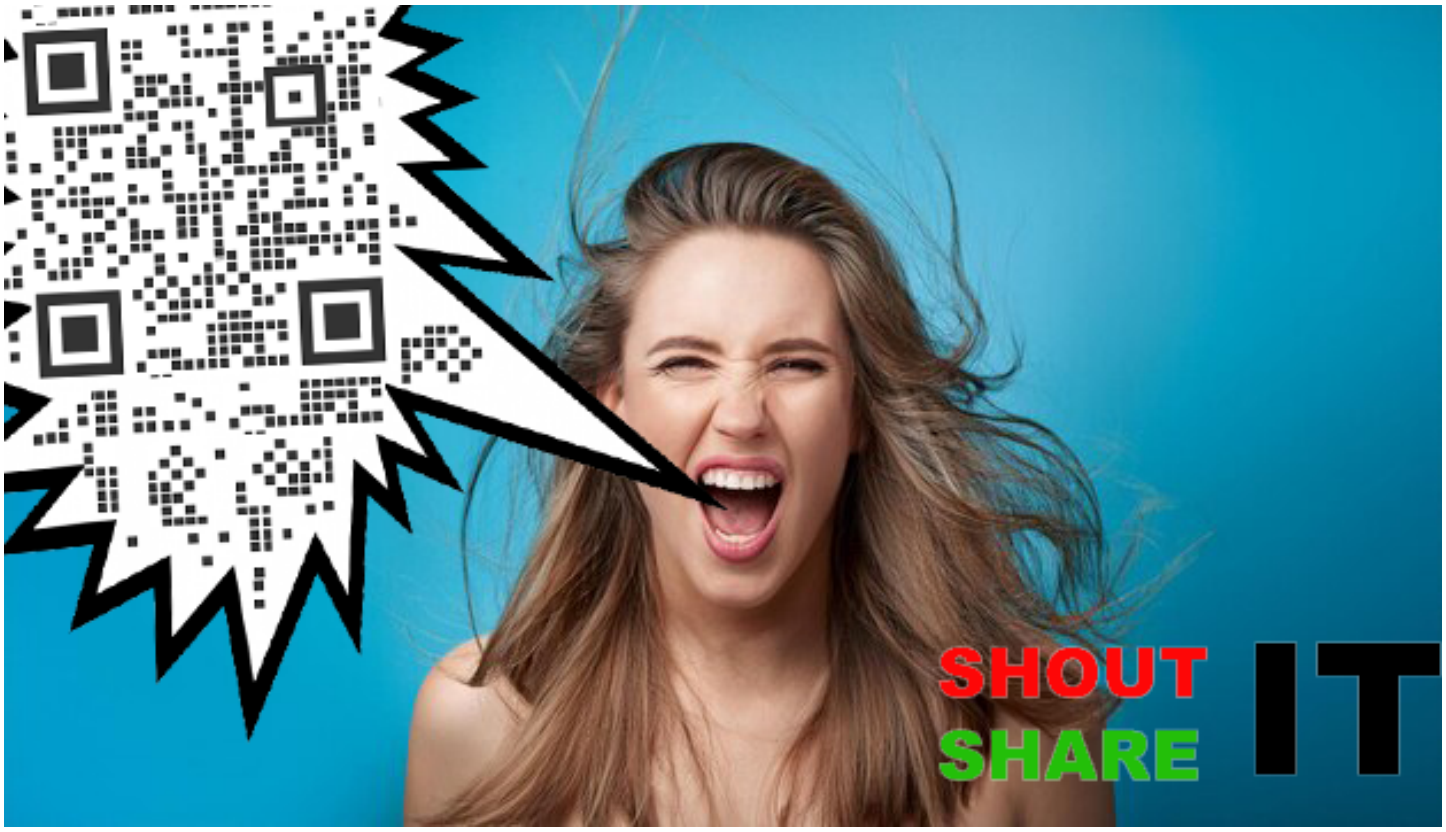
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Issued June 12, 1913.

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 282.

WILLIAM A. TAYLOR, *Chief of Bureau.*

SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1912:

INVENTORY No. 30; Nos. 32369 TO 33278.

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LETTER OF TRANSMITTAL.

U. S. Department of Agriculture,
Bureau of Plant Industry,
Office of the Chief,
Washington, D. C., December 13, 1912.

Sir: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 282 of the series of this Bureau the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from January 1 to March 31, 1912: Inventory No. 30; Nos. 32369 to 33278."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. Galloway,
Chief of Bureau.

Hon. James Wilson,
Secretary of Agriculture.

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B. P. I.—807.

SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1912: INVENTORY NO. 30; NOS. 32369 TO 33278.

INTRODUCTORY STATEMENT.

This number of the inventories contains some material of rather unusual interest. It lists part of the collections made by Mr. Frank N. Meyer during his late expedition into Chinese Turkestan, covering particularly the material secured by him from the noted Russian plant breeder, Mr. I. V. Mijurin. It also contains notes regarding some promising forage grasses collected by Mr. C. V. Piper, Agrostologist in Charge of the Office of Forage-Crop Investigations, during his preliminary exploration of India in search of forage grasses particularly adapted to our Southern States, and it also describes a number of Spanish fruit varieties that Mr. Walter T. Swingle, of the Office of Crop Physiology and Breeding Investigations, discovered during his recent trip to Spain, which was made by him in company with Dr. L. Trabut, the veteran plant breeder and horticulturist of Algeria.

In the spring of 1903 Mr. G. Onderdonk, one of the veteran nurserymen of southern Texas, made a trip into Mexico for the purpose of securing varieties of Mexican peaches and apricots which he knew existed in the mountainous regions of the central provinces. A collection of these fruits which he made was planted at San Antonio, Tex., and Nos. 32372 to 32380 of this present inventory are selected seedlings from the trees grown as a result of this expedition. They are said to be late-ripening sorts, resembling somewhat the Honey peach, but are later in ripening. These may prove of unusual value for the southern peach belt.

Of Mr. Meyer's collection the seeds and plants most worthy of notice are as follows: No. 32389, seeds of *Medicago falcata*, which in Mr. Meyer's opinion (and in this he agrees with Prof. N. E. Hansen) is likely to prove of especial value in those situations where the crowns of the plants are damaged by close grazing and by the hoofs of animals; No. 32408 is a variety of *Medicago sativa* selected by Mr. Bogdan at Krassny Koot, one of the best of his hybrids; No. 32416,

the noted Sarepta mustard, which should be called to the attention of mustard growers in this country because of its unusual strength when grown on rich soil in a hot, dry climate; No. 32417, a wild apple from near Sarepta, of possible value as a drought-resistant shrub or medium-sized tree for breeding purposes or for cultivation in the arid Southwest; No. 32424, a hybrid plum (*Prunus spinosa* × *Prunus domestica*), one of Mr. Mijurin's hybrids; No. 32662, a cross between *Amygdalus davidiana* and *Amygdalus nana*, two very hardy types hybridized by Mr. Mijurin and producing a very floriferous, ornamental, hardy form; Nos. 32664 and 32665, two varieties of *Prunus fruticosa* by the same hybridizer; No. 32667, a golden currant by the same breeder from the region of Kozlov, noted for its severe winter climate; No. 32668, a hybrid rose of exceptional hardiness, representing *Rosa spinosissima* and *Rosa rugosa*, by the same hybridizer; Nos. 32669 to 32673, five hybrid plums suited particularly for the colder sections of the country, being hybrids of *Prunus spinosa* and *Prunus domestica*; No. 32674, a remarkable cherry, a variety of *Prunus avium*, originated by Mr. Mijurin and named "Queen of the North," which is considered by Russian horticulturists to be a decided acquisition to hardy fruit trees, growing as it does where other cherries do very poorly; Nos. 32675 and 32676, two of Mr. Mijurin's quinces, which are presumably withstanding a winter temperature of −35° C. (−31° F.) and have succeeded at Kozlov when other varieties have been killed; Nos. 32757 and 32758, two forms of an east Siberian wild plum (*Prunus ussuriensis*) from Souchodole, Russia, the fruits of one of which are said to improve in flavor by being frozen; No. 32762, *Ribes procumbens*, from the Altai Mountains, a species of large-fruited currant which Mr. Meyer recommends for trial in Alaska; No. 32763, *Clematis tangutica*, a yellow-flowered climbing clematis which Mr. Mijurin reports having received from Tibet; No. 32764, a remarkable, new yellow lily, the bulbs of which are reported to weigh as much as 6 pounds apiece, another of Mr. Mijurin's originations; No. 32829, *Ulmus densa*, an ornamental elm capable of standing great heat and a considerable amount of alkali, collected by Mr. Meyer in the oasis of Merv, Russian Turkestan; No. 32831, another species of elm which will probably make a good shade and avenue tree in Texas, Arizona, and New Mexico; Nos. 32832 to 32836, five varieties of apricot from the oasis of Merv; No. 33077, seeds of *Larix sibirica*, from the Altai Mountains, one of the most rapid-growing conifers, capable of withstanding our northern climate; No. 33078, a Siberian spruce (*Picea obovata*); and No. 33079, seeds of the Siberian pine (*Pinus cembra*).

Mr. Piper's collections in India include the following interesting possibilities: No. 32430, *Rytilix granularis*, an annual grass after the

character of the crab-grass and of possible value for the same purposes, from Kirki, India; No. 32436, *Heylandia latebrosa*, from Kirki, a prostrate legume abundant in the Dekkan and said to be a good forage species; No. 32440, *Andropogon caricosus*, one of the hay-producing grasses of central India, considered as excellent forage, from Kirki, India; Nos. 32443 to 32448, 6 species of forage grasses from the Nilgiri Hills (which have a climate similar to that of the coastal region of California), among them being included the most nutritious grasses for hay and pasture known in southern India; Nos. 32491 to 32598, 108 varieties of soy beans from different parts of India; Nos. 32450 and 32453, 2 species of Indian raspberries from the Nilgiri Hills, considered by Mr. Piper as promising for the Southern States; Nos. 32777 and 32778, 2 subspecies of *Cracca villosa* that are being tested in Java as green-manure crops; Nos. 32431 and 32782, *Indigofera linifolia*, from India, where it is considered one of the very best native pasture legumes, promising for southern California; Nos. 32799 and 32800, two species of wild persimmons from Seharunpur for the persimmon breeders of the Southern States; No. 32808, a new shade tree, *Gmelina arborea*, grown in the upper Ganges Valley and likely to succeed well in southern California; No. 32454, seeds from an unusually good cherimoya, produced by trees descended from the original introduction of this fruit made by Markham into India from Peru; and No. 32429, one of the best pasture grasses in India, *Brachiaria eruciformis*, which forms dense masses of fine stems and appears to be a good seeder.

Dr. Gustav Eisen, of the California Academy of Sciences, during his work for the academy in Spain, called attention to a number of varieties of fruits which have been secured through the British vice consul at Granada. These should recommend themselves especially to Californians as being selected by one familiar with California conditions. Dr. Eisen's studies have convinced him that some of the most valuable California fruit varieties, such as the mission fig, came from the region of Granada and were introduced into California in the early days by the Spanish padres. Among the fruit varieties which he believes are new to California are the Isabella fig (No. 32878), one of the best varieties he has ever tasted; No. 32879, the Jeresiana table grape, which resembles the Verdal but is sweeter and an excellent shipper; the Cuatro Hermanos olive from Canales (No. 32880), which comes from an altitude of 6,000 feet where heavy frosts and snows occur and which may prove an excellent variety for cultivation on the northern limits of olive culture; and No. 32883, the San Martin autumn melon, related to the Casaba but considered superior in quality.

From our correspondents in various parts of the world, particularly from American diplomatic officials and consuls abroad, who have shown an unusual interest in this work, a number of promising plants have been secured: No. 33184, seeds of a remarkable cherimoya weighing 2 pounds 6 ounces, from a tree owned by Mr. Charles F. O'Brien, of Los Angeles, Cal., and probably one of the best varieties now in the United States; Nos. 32470 to 32477, a collection of fig and grape varieties from the island of Chios, off the coast of Greece, by Mr. Pantelides; No. 32480, the Manila maguey, or cantala, from the Philippine Islands, an agave suited for rich, loamy soils containing little lime and for a climate with heavy rainfall, such as is to be found in the island of Porto Rico; No. 32692, a Mexican species of avocado (*Persea mexicana*) from the province of Vera Cruz, through Consul William W. Canada; No. 32705, another of the hard-shelled edible-fruited species of Strychnos from Inhamban, Portuguese East Africa; No. 32706, *Abies numidica*, from the Department of Constantine, Algeria, a spruce which grows to 75 feet in height, occurring at 5,000 to 7,000 feet altitude, sent us by the veteran French botanist, Dr. L. Trabut; Nos. 32713 to 32725, 13 varieties of dates from Egypt; Nos. 32845 to 32859, 15 varieties of dates from the various oases of the Sahara, selected by Dr. Trabut; No. 32730, *Nitraria schoberi*, a remarkably alkali-resistant plant from Australia which, according to Dr. J. H. Maiden, bears edible cherrylike fruits; No. 32751, a new variety of prune from Thun, Bern, Switzerland, for trial in the Oregon prune area; No. 32892, a fodder sedge (*Carex physodes*), collected by Mr. W. W. Mackie in the loose sands of the Peshy Kara Kum Desert, where only 4 inches of rain fall; Nos. 32924 to 32929, six species closely related to the cajuput tree of Australia, remarkable because of its ability to grow rapidly on the coast of Florida along the very edge of the salt water; Nos. 33031 to 33047 and 33155 to 33160, a collection of Cotoneaster, remarkable door-yard shrubs, with attractive red berries in winter and dark-green foliage in summer, which are especially suited as front and back yard shrubs wherever hardy; No. 33093, a broad-leaved evergreen tree from Java, *Dammara alba*, a close relative of the kauri pine of New Zealand, which ought to be peculiarly suited as an avenue tree in Porto Rico, Hawaii, and possibly in Florida; Nos. 33111 to 33118, eight varieties of edible grapes from the western slopes of Mount Lebanon; No. 33166, *Juglans pyriformis*, a walnut said to be native on the slopes of Mount Orizaba, in southern Mexico; Nos. 33205 to 33234, a remarkable collection of Spanish fruit and ornamental trees from the nurseries of Pedro Giraud, of Granada, which were selected by Mr. Swingle during his recent explorations in Spain and which include the azarol (No. 33205), a large-fruited Crataegus with a deli-

cious flavor resembling that of the loquat, the Chopo (No. 33206), a striking, rapidly growing species of poplar almost completely devoid of lateral branches and therefore suited for close planting and for pole production, a shipping pear (No. 33209), of good quality, called "Pera de Aragon," a delicious winter apple (No. 33210) called "Pero Blanco de Ronda," which ripens in January, and an especially hardy almond (No. 33218), which has flowers that hang down and are thus protected from frost injury and in this way insure its fertility when other varieties lose their crops; Nos. 32708 to 32712 and 33250 to 33255, 11 named varieties of udo from Yokohama, Kyoto, and Tokyo, including early, midsummer, and late varieties, for comparison with the seedling sorts now being experimented with in America; No. 33256, an elephant grass of India, *Typha elephantina*, a species related to our cat-tail flag but having leaves 13 feet long; the yam bean of Jamaica (*Cacara erosa*, No. 33258), which, according to the introducer, ought to supersede the arrowroot in cultivation, being a much larger yielder, and the young pods of which are recommended as "string beans," having absolutely no fiber and being excellent when cooked; No. 33263, a cucumberlike vine from the Director of Agriculture of Zanzibar, bearing fruits weighing 60 pounds, from the seeds of which a culinary oil is expressed by the natives; and No. 33277, seeds of the best strains of winter melons of Valencia, which are famous in Spain, 15,000 tons being exported annually.

A special publication is in process of preparation covering the Egyptian expedition of Mr. Aaron Aaronsohn, which was made in search of the Wahi date and which resulted in the introduction of date suckers of 13 promising varieties (Nos. 32713 to 32725).

As heretofore, the manuscript for this inventory has been prepared by Miss Mary A. Austin, the botanical determinations have been made, the notes on geographic distribution compiled, and the notes on nomenclature prepared by Mr. H. C. Skeels, under the supervision of Mr. Frederick V. Coville, of the Office of Taxonomic and Range Investigations, while Mr. S. C. Stuntz has had general supervision of this inventory, as of all the publications of the Office of Foreign Seed and Plant Introduction.

David Fairchild,
Agricultural Explorer in Charge.

Office of Foreign Seed and Plant Introduction.
Washington, D. C., August 29, 1912.

INVENTORY.

32369. PHYTELEPHAS sp. **Ivory-nut palm.**

From an island near the west coast of Panama (?). Presented by Mr. M. B. Shantz, Rochester, N. Y. Received January 2, 1912.

"The button industry uses a large amount of vegetable ivory. This is the fruit of a species of palm growing wild in South America, principally in the republics of Ecuador and Colombia. The manufacturers of this city alone use of this material about 15 tons a week, and the question has often arisen as to whether the palm could not be cultivated successfully in Florida or some of the other Southern States." (*Shantz.*)

The plants grown from these seeds will be tested for their suitability to conditions in southern Florida and southern California.

32370. CAPSICUM ANNUUM L. **Red pepper.**

From Barcelona, Spain. Presented by Mr. Henry H. Morgan, American consul general. Received January 3, 1912.

"*Pimiento Marrón.*" See No. 30084 for previous introduction.

32371. SAPINDUS sp. **Soapberry.**

From Brazil. Presented by Mr. Omar E. Mueller, American vice consul, Bahia. Received January 3, 1912.

"These berries have the property of making a lather with water upon being crushed in the hands and are used in the interior in the place of soap. They are the fruit of a tree known here as *Saboneta*, which is indigenous to the dry, arid country of Brazil." (*Mueller.*)

32372 to 32380. AMYGDALUS PERSICA L. **Peach.**

From San Antonio, Tex. Grown by Mr. S. H. Hastings, superintendent, San Antonio Experiment Farm. Numbered January 2, 1912.

Mexican seedling peach trees as follows; quoted notes by Mr. Hastings. These were grown from seeds procured by Mr. G. Onderdonk, of Nursery, Tex., while on an exploration trip for the Department of Agriculture in Mexico in 1902-3.

32372. "(No. C 31.) The fruit of this tree closely resembles the Honey peach, which is the best for this section of the South China varieties. In the season of 1910 this tree had much more fruit than the Honey peach, the fruit was more uniform in size, and had a more uniform ripening period. The fruit ripens about the 20th of June, and about a week later than the Honey peach. The tree is a vigorous grower, and Mr. G. Onderdonk recommends it as worthy of propagation."

32373. "(No. E 10.) The fruit of this tree resembles the Honey peach in shape and flavor and is a freestone. The ripening period is about August 18 to 20, or nearly two months later than the Honey variety. Its late-ripening period puts it in the valuable class, although the fruit is not better than the fruit of the Honey peach."

32372 to 32380—Continued.

32374. "(No. I 16.) The fruit of this tree is a large, yellow cling, and has a pleasant, subacid flavor. Ripens about September 3. This peach would be a good shipper. Purely Spanish."

32375. "(No. C 32.) Fruit ripens about August 23 and is a large, light-colored cling. Col. G. B. Brackett considers this peach of good quality and worthy of further trial."

32376. "(No. E 24.) The fruit of this tree ripens about September 1 to 3 and is a freestone. Mr. G. Onderdonk thinks this peach has some South China blood. It has a subacid flavor. Col. G. B. Brackett considers this tree promising."

32377. "(No. H 21.) The fruit ripens about September 7 and is a large greenish cling; quality good. Col. G. B. Brackett thinks it is only suitable for canning."

32378. "(No. H 27.) A medium to large yellow cling, probably purely Spanish. Fruit of medium to good quality, slightly subacid. Ripens about September 15."

32379. "(No. A 16.) Distinctly a South China peach, resembling the Honey peach in all respects, except that it ripens about a month later. Ripening period about July 25."

32380. "(No. D 9.) The fruit of this tree resembles the fruit of the South China type and from indications appears to be a cross between the Spanish and the South China types. It is a freestone and the flavor is good. Ripens about August 10."

32381. LUCUMA sp.

From Mexico. Presented by Mr. Clarence A. Miller, American consul, Tampico. Received January 5, 1912.

"*Zapota Manti.* This fruit is said to be edible, but not especially palatable. Although the supply is not large this fruit sells in the market at the comparatively low price of 5 cents Mexican each." (*Miller.*)

32382. BROMELIA PINGUIN L. **Pinguin.**

From Tampico, Mexico. Presented by Mr. Clarence A. Miller, American consul. Received January 5, 1912.

"Wild pineapple, or *Huapillo.* This plant is very prolific in this section. In many places it covers thousands of acres, making a thick jungle. The plant propagates from the seed and by starting suckers from the root or trunk. It flourishes in the lowlands or in the highlands. The plant is drowned out or destroyed if the land is flooded for a number of days.

"The leaves contain a fine quality of fiber. The fruit is used by the natives as a vermifuge. The plant itself is said to contain valuable chemical properties.

"These specimens were obtained from Mr. Alexander Smith, of Tampico." (*Miller.*)

Distribution.—In Panama and the West Indies, and from Colombia to Guiana in the northern part of South America.

32385. MANIHOT sp. **Maniçoba rubber.**

From Brazil, South America. Purchased from Charles W. Jacob & Allison, New York, N. Y. Received January 6, 1912.

32386. PINUS TEOCOTE Cham. and Schlecht. **Okote pine.**

From Mexico. Presented by Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz, Mexico. Received January 2, 1912.

"From Esperanza, Puebla. 2,700 to 2,800 meters [8,850 to 9,180 feet] altitude."

Distribution.—Mexico; from San Luis Potosi, where it rises to an elevation of 8,000 feet, southward to the region of Orizaba.

32387 to 32389.

From Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, Bureau of Plant Industry. Received January 6, 1911.

Seeds of the following:

32387. FESTUCA sp. **Fescue.**

From Omsk, Siberia.

"(No. 1629a, July 19, 1911.) A grass said to be native to the steppe country of western Siberia; much grown for hay. Possesses the desirable quality of not sprouting when once plowed under, in case the land is needed for wheat culture. To be tested in the semiarid northwestern sections of the United States." (*Meyer.*)

32388. TRITICUM DURUM Desf. **Wheat.**

From Chistunka, southwestern Siberia.

"(No. 1630a, September 9, 1911.) A hard-kerneled summer wheat, called *Bjela-turka*, meaning White Turkish. It is much grown throughout western Siberia on account of its resistance to drought and its early-ripening qualities.

"Winter wheats can not be grown successfully in western Siberia, as the winters are too cold and often have very little snow, so at present all wheats raised are summer wheats." (*Meyer.*)

32389. MEDICAGO FALCATA L.

From western Siberia.

"(No. 1634a, July 18 and October 4, 1911.) The *sholteek*, as this wild alfalfa is generally called in western Siberia, occurs over the greater part of Eurasia, being found in the Himalayas as low down as the thirtieth degree of latitude, near Yakutsk, and in Norway between the sixtieth and seventieth parallels. There is a very great amount of variation to be observed in the wild plant; some forms grow up to from 5 to 6 feet and may be fairly erect, while others reach a height of a few inches only and are often prostrate in habit. The more prostrate forms lend themselves excellently for naturalization purposes on dry pasture grounds, while the erect varieties may be cultivated for forage purposes in sections of the United States where the ordinary alfalfa gets winter killed. The present habits of this *sholteek* indicate that possibly a great amount of selection and breeding may have to be done before ideal types will have been evolved, but the many excellent qualities this plant possesses, viz, the eagerness with which all sorts of domestic animals devour it, its apparently great nutritive capacities, especially for milk cows, its remarkable resistance to drought, to close grazing, and to adverse conditions in general, all seem to make it well worth while to spend some extra efforts on improvement. The roots of this *sholteek* also possess the capacity of producing new plants whenever cut off or when exposed to the air on account of the soil having been washed away. This characteristic is of great value in pasture grounds, where the crowns are easily damaged by the close grazing and by the hoofs of the animals trampling over them. The soil best suited to this Medicago seems to be a blackish, well-drained

32387 to 32389—Continued.

earth, but one also finds that it grows luxuriantly in pebbly banks and in dry cliffs composed of sandy loam. This seed should be tested especially for naturalization purposes in pasture grounds in the semiarid belt of northwestern United States." (*Meyer.*)

32390. Rhus lancea L. f. **Karree.**

From Pretoria, Union of South Africa. Presented by Mr. J. Burtt Davy, Government agrostologist and botanist, Department of Agriculture. Received January 3, 1912.

"The karree-boom of the southwestern Transvaal and adjacent Bechuanaland. It is a valuable hardwood tree for regions of limited rainfall (10 to 15 inches in summer). The fruits are edible. The tree can be grown from poles, as in the case of willows." (*Davy.*)

Distribution.—Found in the Uitenhage and Albany districts of Cape Colony.

32391. Vaccinium vitis-idaea L. **Cowberry.**

From Norrland, Sweden. Presented by Dr. V. Wittrock, director, Botanic Gardens, Albano, Stockholm, Sweden. Received January 6, 1912.

Seeds.

32392 to 32396.

From Salisbury, Rhodesia. Presented by Mr. H. Godfrey Mundy, agriculturist and botanist, Department of Agriculture. Received January 6, 1912.

Seeds of the following; quoted notes by Mr. Mundy:

32392. Citrullus vulgaris Schrad. **Watermelon.**

"Kafir melon. *Marjorta.*"

This seed shows great variation.

32393. Lagenaria vulgaris Ser. **Calabash.**

"Large bottle."

32394. Uapaca sansibarica Pax. **Mahobohobo.**

"Tree having edible fruit and good light timber."

32395. Parinari mobola Oliver. **Mola.**

"M'hatsha tree. Edible fruit, and timber of some value."

Distribution.—The Batoka Highlands, Angola, and the Mozambique district of southern tropical Africa.

32396. Widdringtonia whytei Rendle. **Mlanje cypress.**

"The only conifer indigenous to Melsetter district, southern Rhodesia. The tree occurs on the eastern escarpment at an elevation of 6,000 to 7,000 feet."

For description see No. 28690.

32397 to 32398. Citrus decumana (L.) Murr. **Pomelo.**

From China. Presented by Mr. John M. Nixon, New York, N. Y. Received January 9, 1912.

"These pomelo seeds were sent me by a missionary and are of the white and pink variety of the celebrated Amoy product. The fruit is about the size and shape of our shaddock but without its dryness and bitter taste." (*Nixon.*)

32397. White variety.

32398. Pink variety.

32399. CHAETOCHLOA COSTATA (Roxb.) Skeels.

(*Panicum costatum* Roxburgh 1832, Flora Indica, vol. 1, p. 312.)

The seeds of this grass received from India were identified as *Panicum costatum* Roxburgh, but as it is more closely related to the type of the genus Chaetochloa it is here placed in that genus.

Chaetochloa costata was described by Roxburgh from cultivated plants received from Mauritius, where it is common in fields and woods. It is also generally introduced throughout the Tropics of both hemispheres.

From Sibpur, near Calcutta, India. Presented by Maj. A. T. Gage, superintendent, Royal Botanic Garden. Received January 9, 1912.

32400. PERSEA AMERICANA Miller. **Avocado.**

From Orange, Cal. Presented by Mr. C. P. Taft. Received January 10, 1912.

"Fruit absolutely seedless but very small, 3 to 5 inches in length and ¾ to 1 inch in diameter. Of possible use in breeding experiments. (*Peter Bisset.*)

32401 to 32403.

From Central America. Presented by Prof. A. S. Hitchcock, of the Bureau of Plant Industry. Received January 12, 1912.

Seeds of the following; quoted notes by Prof. Hitchcock:

32401. SALVIA sp.

"*Chián.*—Obtained on the market at Punta Arenas, Costa Rica. It is used there in the preparation of a refreshing drink. It was purchased at a drug store by an American physician and by him given to me. I was unable to ascertain the source of the supply, but apparently it is a product of the country."

32402. CHRYSOBALANUS ICACO L. **Icaco.**

"From San Salvador, Salvador. A common fruit sold in the markets and by street venders. Various colors, especially a yellow and a purple variety."

"Shrub 2 meters [6½ feet] high, found on dry beaches; known as '*Cocoa-plum.*' Fruits about the size of a plum, used for preserves." (*Cook and Collins, Economic Plants of Porto Rico, p. 114.*)

Distribution.—From Acapulco in southern Mexico southeastward through Central America and tropical America, in the West Indies, and in western tropical Africa.

32403. PASSIFLORA LIGULARIS Juss. **Passion fruit.**

"From Santa Ana, Salvador. Commonly sold on the streets. The leathery covering is broken and the seeds with the containing pulp are sucked out."

32404. SOLANUM NIGRUM L. **Nightshade.**

From Kew, England. Procured from the Herbaceous Botanical Garden at Kew, by Prof. William R. Lazenby, Ohio State University, Columbus, Ohio. Received August 31, 1911. Numbered January 13, 1912.

"Plant very dwarf; spreading in habit." (*Lazenby.*)

32405 to 32424.

From Russia. Received through Mr. Frank N. Meyer, agricultural explorer, Bureau of Plant Industry, January 11 and 12, 1912.

Seeds of the following; quoted notes by Mr. Meyer:

32405 to 32414—Continued.

32405. T[illegible]ICUM AESTIVUM L. **Wheat.**

From Krasnv Koot, Samara Government, Russia.

"(No. 1707a, November 20, 1911.) Variety *graecum*. A variety of soft summer wheat, called *Khivinskaia*, coming originally from dry and hot Khiva, Russian Turkestan. This grain at Krassny Koot, however, was received from a firm in Germany named Dreifus. This wheat produces a flour especially suitable for biscuit making and may be found valuable in America for this purpose." (*Meyer.*)

32406. AGROPYRON CRISTATUM (L.) Beauv.

From near Sarepta, Saratov Government, Russia.

"(No. 1708a, November 28, 1911.) A form of this very promising fodder grass, occurring on very sandy, dry hill slopes in the vicinity of Sarepta. Of value for sandy lands in the semiarid belt of the United States." (*Meyer.*)

32407. AGROPYRON sp.

From near Sarepta, Saratov Government, Russia.

"(No. 1709a, November 28, 1911.) A grass occurring here and there on very sandy soil. Grows in clumps. Of value as a forage grass on dry, sandy lands in the semiarid belt of the United States." (*Meyer.*)

32408. MEDICAGO SATIVA VARIA (Mart.) Urban. **Sand lucern.**

From Krassny Koot, Samara Government, Russia.

"(No. 1710a, November 20, 1911.) A very strong-growing hybrid alfalfa having erect heavy stems which are well supplied with foliage. Obtained from Mr. W. S. Bogdan, at Krassny Koot, who is making extensive selection and hybridization experiments with *Medicago falcata* and has obtained a number of very promising types, some of which are suitable for raising exclusively for hay, while others are better for pasturing purposes.

"The climate around Krassny Koot is of a severely continental nature. The summers are hot and dry and the winters long and cold, with very little snow, as a rule. The medicagos selected there may prove especially suited to the drier portions of the western United States. The plant from which these seeds came bears Mr. Bogdan's No. 158, and is one of his best types." (*Meyer.*)

32409. MEDICAGO FALCATA L.

From near Sarepta, Saratov Government, Russia.

"(No. 1711a, November 28, 1911.) An alfalfa of moderate growth occurring on very sandy, dry hill slopes in a country where there is much limestone formation. Probably there are several types or, perhaps, even species in this lot of seed. To be tested in dry, sandy localities." (*Meyer.*)

32410. MEDICAGO sp.

From near Sarepta, Saratov Government, Russia.

"(No. 1712a, December 1, 1911.) An alfalfa occurring on dry, elevated lands along a ditch, of robust almost erect growth. Is either a form of *Medicago falcata* or *M. coerulea* which has been collected near Sarepta. Suitable for dry situations." (*Meyer.*)

32411. MEDICAGO FALCATA L.

From near Saratov, Russia.

"(No. 1713a, November 23, 1911.) An alfalfa of erect growth, found on dry, stony places on the hills near Saratov." (*Meyer.*)

32405 to 32424—Continued.

32412. MEDICAGO FALCATA L.

From Krassny Koot, Samara Government, Russia.

"(No. 1714a, November 29, 1911.) This seed was presented by Mr. W. S. Bogdan. Among it there are all possible types, and it is recommended, therefore, for general naturalization purposes and should be sown in a dry northern locality for the selection of promising types." (*Meyer.*)

32413. ASTRAGALUS ALBICAULIS DC.

From near Sarepta, Saratov Government, Russia.

"(No. 1715a, November 28, 1911.) This plant occurs on dry, sandy hill slopes. Looks to be promising as a possible fodder plant for semiarid regions." (*Meyer.*)

Distribution.—The Caucasus region of southeastern Russia.

32414. CORONILLA VARIA L.

From near Saratov, Russia.

"(No. 1716a, November 23, 1911.) A perennial legume, found on dry hill slopes and in loess ravines. Roots sent under No. 993 (S. P. I. No. 32305): see this number for further remarks." (*Meyer.*)

32415. LATHYRUS SYLVESTRIS L.

From near Penza, Russia.

"(No. 1717a, November 17, 1911.) A very strong-growing perennial Lathyrus found between scrub. Of possible value for forage purposes on shady places in dry, cold regions." (*Meyer.*)

Distribution.—Western and southern Europe, extending from Scandinavia and the British Isles southward to Spain, and eastward through Italy, Servia, Bulgaria, Turkey, and central and southern Russia to the Caucasus region.

32416. BRASSICA JUNCEA (L.) CASS. **Mustard.**

From Sarepta, Saratov Government, Russia.

"(No. 1718a, December 1, 1911.) Seed of the famous Sarepta mustard, which is extraordinarily strong and in great favor throughout Russia. To possess the right pungency this mustard requires a rich, blackish soil and a hot and dry summer, with nights not too warm. The region around Sarepta seems to supply such a climate, the summers being warm enough to ripen grapes in the open, although the vines are buried deeply in winter. It may be that this short, hot summer assists in making this mustard so strong, for the manager of a large mustard factory stated that seeds from Sarepta mustard grown in Tambov Government, a region also having black soil, but slightly cooler, do not possess the required strength. India-grown seed also was not as pungent as that cultivated near Sarepta. This may possibly be grown to advantage in certain sections of eastern Oregon.

"The seeds, besides being ground into powder, are often eaten sprinkled over fried meats or mixed in sauces and when used in this manner they give dishes an agreeable, spicy flavor. The oil expressed from them is not at all strong and is in very great demand for culinary purposes in the section around Sarepta, being much preferred to sunflower-seed oil, as the mustard is less adulterated.

"These seeds were obtained from the manager of the well-known mustard factory of J. C. Glitch, in Sarepta." (*Meyer.*)

32405 to 32424—Continued.

32417. MALUS sp. **Apple.**

From near Sarepta, Saratov Government, Russia.

"(No. 1719a, November 28, 1911.) A genuine wild apple, occurring in the ravines in the vicinity of Sarepta. Sometimes seen as solitary shrubby specimens, sometimes as medium-sized trees in groves. The fruits are said to be very variable as regards size, flavor, and color. Of value possibly for breeding experiments in originating varieties of apples that are able to stand more drought than our present varieties." (*Meyer.*)

32418. JUGLANS REGIA L. **Walnut.**

From Rostov, Russia.

"(No. 1720a, December 12, 1911.) A very large variety of walnut, being imported from Constantinople, but possibly grown somewhere in northern Persia or Asia Minor. Sells in Rostov at 30 kopecks (15 cents) a pound." (*Meyer.*)

32419. CORYLUS AVELLANA L. **Hazelnut.**

From Rostov, Russia.

"(No. 1721a, December 12, 1911.) A very large variety of hazelnut, said to come from Persia, called *Persisky kurtshawi*. This name may be fictitious, as Armenian fruit dealers in Rostov are unreliable." (*Meyer.*)

32420. CORYLUS AVELLANA L. **Hazelnut.**

From Rostov, Russia.

"(No. 1722a, December 12, 1911.) A very large variety of hazelnut, said to come from Constantinople, but cultivated probably somewhere in the southwestern Caucasus or in Asia Minor." (*Meyer.*)

32421. PHOENIX DACTYLIFERA L. **Date.**

From Rostov, Russia.

"(No. 1723a, December 12, 1911.) A very large variety of date of dark color and having little saccharine. Said to be grown in Persia and imported through Constantinople. New types may possibly be obtained from this lot." (*Meyer.*)

32422. ACER TATARICUM L. **Maple.**

From near Sarepta, Saratov Government, Russia.

"(No. 1724a, November 28 and December 1, 1911.) A shrubby maple occurring on dry hill slopes and in gullies and ravines, effectually preventing the soil from being washed away, and of value for this reason in those semiarid sections of the United States where much land is being lost through erosion." (*Meyer.*)

Distribution.—Southeastern Europe, extending from Hungary and Bulgaria eastward to the Caucasus region, and in Asia Minor and Armenia.

32423. EUONYMUS VERRUCOSUS Scopoli.

From near Sarepta, Saratov Government, Russia.

"(No. 1725a, November 28, 1911.) A hardy shrub growing 3 to 5 feet in height, occurring in shady places. Of value as undergrowth beneath trees and tall shrubs in the parks and gardens of the semiarid sections of the United States." (*Meyer.*)

Distribution.—A shrub found in central and southern Europe and western Asia, extending from the eastern part of the German Empire eastward through Dalmatia, Bosnia, central and southern Russia to the Ural region of Siberia.

32405 to 32424—Continued.

32424. PRUNUS SPINOSA × DOMESTICA. **Plum.**

From Kozlov, Tambov Government, Russia.

"(No. 1726a, December 28, 1911.) This plum is a hybrid between *Prunus spinosa* and *P. domestica* var. *Green Reine Claude;* originated by Mr. I. V. Mijurin, Kozlov, Tambov Government, and temporarily named by him *Tjorn Sladky Chorny*, meaning 'sweet black sloe.' Scions sent under No. 1014 (S. P. I. No. 32671); see this number for further remarks." (*Meyer.*)

32425. ANNONA CHERIMOLA Miller. **Cherimoya.**

From San Jose, Costa Rica. Presented by Mr. Carlos Wercklé, Museo Nacional. Received January 2, 1912.

Seeds.

32426. PERSEA AMERICANA Miller. **Avocado.**

From Musa Isle Grove, Miami, Fla. Presented by Mr. J. P. Roop, through Mr. H. F. Schultz. Bud wood sent to Mr. Edward Simmonds, gardener, in charge of Subtropical Plant Introduction Garden, Miami. Numbered January 15, 1912.

"*Roop.* A very good late variety which Mr. Roop states always produces generous crops of fruit which 'hang on' late in December and January. This season the *Trapp* and most other late avocados ripened and dropped their fruit earlier than usual, speaking well for the persistent properties of this variety. I consider the flavor superior to the *Trapp;* the seed always seems to be firm, but it is unfortunately rather large in proportion to the size of the fruit." (*Schultz.*)

32427. MEDICAGO SATIVA L. **Alfalfa.**

From India. Procured through Mr. F. Booth Tucker, Salvation Army, The Mall, Simla. Received January 15, 1912.

32428. PUERARIA THUNBERGIANA (S. and Z.) Benth. **Kudzu.**

From Sapporo, Japan. Presented by Prof. T. Minami, College of Agriculture, Tohoku Imperial University. Received January 2, 1912.

Root cuttings.

32429 to 32455.

From India. Collected by Mr. C. V. Piper, of the Bureau of Plant Industry. Received January 12, 1912.

Seeds of the following; quoted notes by Mr. Piper:

32429. BRACHIARIA ERUCIFORMIS (Smith) Griseb.

From Kirki.

"(No. 141, October 14, 1911.) One of the best pasture grasses in India, each plant producing a dense mass of fine stems a foot or more high. It produces seed in great abundance."

Distribution.—Southern Europe and Asia, extending from Italy eastward through Greece, Asia Minor, and northern Persia to India; also in Egypt, Abyssinia, and South Africa.

32429 to 32455—Continued.

32430. Rytilix granularis (L.) Skeels.

(*Cenchrus granularis* L., 1771, Mantissa Plantarum, p. 575.)

The seeds of this grass were received under the name *Manisuris granularis* Swartz, 1778 (Nova Genera et Species Plantarum, p. 25), which is based on *Cenchrus granularis* L. However, Linnæus had published in 1771 (Mantissa Plantarum, pp. 164, 300) the generic name Manisuris with one species *M. myurus*, which is not now considered to be congeneric with *Cenchrus granularis* L., thus invalidating the use of the generic name Manisuris for the latter species. This fact was recognized by Kuntze, who proposed for *Cenchrus granularis* L. the name Hackelochloa (Revisio Generum Plantarum, 1891, pt. 2, p. 776). However, in 1830, Seringe (Bulletin Botanique, vol. 1, p. 219) had published the generic name Rytilix, citing "*Manisuris granularis* et *myurus* Auct." and listing one species, *R. glandulosa*. While there is no description, the facts that *M. granularis* was cited first, that the name *R. glandulosa* is proposed and that "*glandulosa*" and "*granularis*" are considered to refer to the same plant characteristic, lead one to consider *Manisuris granularis* to be the type of the genus Rytilix.

From Kirki.

"(No. 142, October 14, 1911.) An annual grass that may be valuable after the manner of crab-grass."

Distribution.—Found throughout the tropical region of India and is generally distributed in the Tropics of both hemispheres.

32431. Indigofera linifolia (L. f.) Retzius.

From Kirki.

"(No. 143, October 14, 1911.) Said to be one of the best pasture legumes in India."

Distribution.—Throughout India from the Himalayas to Ceylon; also in Abyssinia, Afghanistan, the Malay Archipelago, and northern Australia.

32432. Alysicarpus longifolius (Rottl.) Wight and Arn.

From Kirki.

"(No. 144, October 14, 1911.) A tall, erect species being tested for hay at Kirki."

Distribution.—Throughout the plains of British India.

32433. Syntherisma sanguinalis (L.) Dulac.

From Kirki.

"(No. 145, October 14, 1911.) Similar to our common crab-grass."

32434. Crotalaria orixensis Willd.

From Kirki.

"(No. 146, October 14, 1911.) A creeping species abundant in sorghum, etc., at Kirki. The green pods are eaten by boys."

Distribution.—Throughout the plains of India and in Abyssinia.

32435. Mnesithea exaltata (L.) Skeels.

(*Aegilops exaltata* L., 1771, Mantissa Plantarum, p. 575.)

(*Ophiuros corymbosa* Gaertner f. 1805, Fructibus et Seminibus Plantarum, vol. 3, p. 3, pl. 181.)

The seeds of this grass were received under the name *Ophiuros corymbosa* (L. f.) Gaertn. f. In publishing the genus Ophiuros, Gaertner cited Rott-

32429 to 32455—Continued.

boellia Linn. and Juss., and described and figured two species. Under the first, *O. incurvata*, are cited the descriptions of *Aegilops incurvata* L. and *Rottboellia incurvata* L. f. Under the second, *O. corymbosa*, are cited the descriptions of *Aegilops exaltata* L. and *Rottboellia corymbosa* L. f., the latter of which is based on *Aegilops exaltata*, the specific name being changed because of *Rottboellia exaltata* L. f. appearing earlier on the same page of the Supplementum (1781, p. 114). The generic characterization covers both grasses; but the first species is more completely described, Gaertner not having any fertile flowers of the second, of which he remarks that it might prove to be very closely related to Digitaria if the flowers were better known. It would therefore seem necessary to consider the first species, *O. incurvata*, as the type of the genus Ophiuros. As *Aegilops exaltata* is not now considered to be congeneric with *O. incurvata* it must be referred to another genus. In 1829, Kunth (Revision des Graminées, vol. 1, p. 153) published the genus Mnesithea with one species, *M. laevis*, based on *Rottboellia laevis* Retzius. As this grass is considered to be congeneric with the species received as *Ophiuros corymbosa*, the latter is here placed in the genus Mnesithea, the earliest specific name, *exaltata*, being restored.

From Poona.

"(No. 147, October 13, 1911.) A rather coarse grass, but cut for fodder."

Distribution.—Found on dry hills at the base of the Himalayas, where it rises to an elevation of 3,500 feet, in the Khasi Hills and southward in the Dekkan Peninsula of India; also in the States of North Australia and Queensland in Australia.

32436. Heylandia latebrosa (L.) DC.

From Kirki.

"(No. 148, October 14, 1911.) A prostrate legume abundant in the Dekkan. Said to be good fodder."

Distribution.—Throughout the tropical region of India from the valley of the Ganges to Ceylon.

32437. Panicum trypheron Schultes.

From Kirki.

"(No. 149, October 14, 1911.) A large annual Panicum producing enormous panicles 12 to 18 inches long and nearly as broad. These panicles break off and drift over the country after the manner of tumbleweeds. The grass is considered fair forage."

Distribution.—From India eastward to China and Borneo, and in tropical Africa.

32438. Ischaemum pilosum (Klein) Hackel.

From Kirki.

"(No. 150, October 14, 1911.) A tall, rather coarse grass growing on comparatively low ground. It makes only fair forage."

Distribution.—In the Central Provinces and in the Dekkan Peninsula of India.

32439. Arthraxon lanceolatus (Roxb.) Hochst.

From Kirki.

"(No. 151, October 14, 1911.) A grass growing about Poona in more or less shaded places, especially where somewhat moist."

32429 to 32455—Continued.

Distribution.—From the western Himalayas, where it rises to an elevation of 8,000 feet, southward to the Coromandel Coast of India, and eastward to the provinces of Chihli, Kiangsu, Hupeh, and Yunnan in China; also in Nubia and Abyssinia in northern Africa.

32440. ANDROPOGON CARICOSUS L.

From Kirki.

"(No. 152, October 14, 1911.) A grass abundant throughout northern and central India and considered excellent forage. Much of it is cut for hay."

32441. ANDROPOGON ANNULATUS Forsk.

From Kirki.

"(No. 153, October 14, 1911.) Very similar to the preceding, but with much more slender stems."

Distribution.—Throughout the plains and hills of India, and in tropical Africa, China, the Pacific islands, and in Australia.

32442. PAROCHETUS COMMUNIS Hamilton.

From Utakamand.

"(No. 154, October 24, 1911.) Collected on wet banks. The leaves are like white clover and the scapes bear one or two bright-blue flowers."

Distribution.—From the alpine slopes of the Himalayas southward and eastward to Ceylon and Burma in India, and in the Malay Archipelago to Java, also in tropical Africa.

32443 to 32448.

"A collection of grasses from Utakamand. All grow on the meadowy tops of the Nilgiri Hills. The climatic conditions in the Nilgiri Hills are very much like those of the coast region in California, the principal trees being Australian eucalypts and acacias and such California trees as the Monterey pine and *Cupressus macrocarpa.*"

32443. TRIPOGON FILIFORMIS Nees.

"(No. 155, October 24, 1911.) A perennial grass forming a considerable element of the grassy meadows."

Distribution.—In India on the temperate slopes of the Himalayas at an elevation of 5,000 to 10,000 feet, between Dalhousie and Bhutan and on the Khasi Hills.

32444. THEMEDA TRIANDRA Forsk.

Probably variety *Themeda roylei* Hook. f.

"(No. 156, October 23, 1911.) An abundant element of the grassy meadows of the Nilgiri Hills and considered good forage."

Distribution.—In the drier parts of India from the lower Himalayas to Burma and Ceylon, and generally distributed in the Tropics of the Eastern Hemisphere.

32445. ISCHAEMUM CILIARE VILLOSUM (Nees) Hackel.

"(No. 157, October 25, 1911.) Locally abundant in the grassy meadows of the Nilgiri Hills."

Distribution.—From the eastern part of India southeastward through the Malay Archipelago to China and Australia.

32446. BRACHYPODIUM SYLVATICUM (Huds.) Beauv.

"(No. 158, October 23, 1911.) Common in shady places in the Nilgiri Hills at 6,000 feet altitude."

32429 to 32455—Continued.

32443 to 32448—Continued.

Distribution.—In woods, hedges, and thickets throughout Europe and eastward through northern Asia to the provinces of Shingking and Hupeh, China.

32447. ANDROPOGON PERTUSUS INSCULPTUS (Hochst.) Hook.

"(No. 159, October 23, 1911.) This grass is abundant in the Nilgiri Hills near Utakamand, and is considered one of the most nutritious of the south India grasses for hay and pasturage."

Distribution.—Found with the species, which grows in southern Europe and Asia and northern Africa and Australia.

32448. ARUNDINELLA FUSCATA Nees.

"(No. 160, October 25, 1911.) Abundant on the Nilgiri Hills at 6,000 feet altitude and is considered to be an excellent pasture grass."

Distribution.—On the Nilgiri Hills at an elevation of 6,000 feet and at Rangoon, in India.

32449. CASSIA sp. (?)

From Utakamand.

"(No. 161, October 25, 1911.) Common throughout the Nilgiri Hills. Shrub, 3 to 6 feet high. Said to be American."

32450. RUBUS RUGOSUS Smith. **Raspberry.**

From Utakamand.

"(No. 162, October 24, 1911.)"

"A tall climber, evergreen in mild climates, bearing comparatively large fruit. The fruit is dark red, turning black, makes delicious jam, and is borne the year around in the vicinity of Melbourne." (*Mueller, Select Plants.*)

Distribution.—In the upper part of the province of Nepal in northern India.

32451. RUBUS GOWREEPHUL Roxb.

From Utakamand.

"(No. 163, October 24, 1911.)"

Distribution.—On the slopes of the mountains in the northern part of India.

32452. PANICUM ANTIDOTALE Retz.

From Agra.

"(No. 164, October 7, 1911.) A species much like Guinea grass, but rather harsher. Of doubtful value."

Distribution.—Southern Asia, from Afghanistan southeastward through India to Ceylon, and in northern Africa and tropical Australia.

32453. RUBUS LASIOCARPUS Smith. **Raspberry.**

From Bangalore.

"(No. 165, October, 1911.) A blackcap raspberry, native on the Nilgiris and cultivated about Bangalore. Larger than *Rubus occidentalis* and more juicy, but not so spicy in flavor. Will stand 20° F. Should be an excellent berry for the Southern States."

Distribution.—Temperate slopes of the Himalayas at an altitude of 5,000 to 10,000 feet, in northern India, and on the hills of southern India; also in Ceylon and Java.

32454. ANNONA CHERIMOLA Miller. **Cherimoya.**

From Nilgiri Hills.

"(No. 166, October 25, 1911.) Grown at 5,000 feet elevation. An excellent fruit. This was introduced into India with the cinchona from Peru. (See note

32429 to 32455—Continued.

to this effect in Markham's Travels in India and Peru.) It is probable that all the cherimoyas in India are the progeny of this stock. Mr. George Oakes, who presented the seed, says that it comes absolutely true."

32455. TRICHOLAENA ROSEA Nees. **Natal grass.**

From Poona.

"(No. 167.) Purchased from the Empress Botanic Gardens, Poona. In India this is cultivated only as an ornamental."

32457 and 32458. PRUNUS spp.

Seeds of the following, collected by Mr. W. F. Wight, of this Department, turned over to the Office of Foreign Seed and Plant Introduction January 9, 1912.

32457. PRUNUS sp.

Collected in Montmorency County, Mich. To be used for breeding purposes.

32458. PRUNUS MEXICANA S. Watson. **Plum.**

Collected near Denison, Tex.

Distribution.—From western Tennessee southeastward to the vicinity of San Antonio, Tex.

32459. MACHILUS NANMU (Oliv.) Hemsl. **Nanmu.**

From Tangho, Chiangchin, China. Presented by Mr. Albert W. Pontius, American consul, Chunking, China. Received January 19, 1912.

See Nos. 28128, 29485, and 30039 for previous introductions.

Seeds.

32460. CITRUS LIMETTA Risso. **Lime.**

From Honolulu, Hawaii. Presented by Mr. J. E. Higgins, horticulturist, Hawaii Agricultural Experiment Station. Received January 19, 1912.

Cuttings.

Kusaie.

"This variety was introduced into Hawaii about 20 years ago from the island of the same name in the South Seas. It has proved to be a very good fruit-bearing tree, quite as healthy and vigorous as any of our limes, bearing fruit at almost all seasons of the year. The fruit is of medium to large size. The rind is rather thin and tender, which might bar this variety for commercial use. It is, however, an ideal lime for the family fruit garden." (*Higgins.*)

32461 and 32462. EUCALYPTUS spp.

From Sydney, New South Wales. Presented by Mr. R. T. Baker, curator, Technological Museum. Received January 20, 1912.

Seeds of the following; quoted notes taken from Baker and Smith, Eucalypts and Their Essential Oils, 1902. See this work for further description.

32461. EUCALYPTUS SMITHII R. T. Baker. **Gully-ash.**

"A tall, quick-growing tree, sometimes attaining a height of 150 feet and a diameter of from 2 to 5 feet. Bark on old trees deeply furrowed, and in color dark gray to blackish up to the branches. It is famous for its eucalyptol oil."

Distribution.—A tree often 200 feet tall, found on steep mountain slopes in the southeastern part of New South Wales, Australia.

32461 to 32462—Continued.

32462. EUCALYPTUS UMBRA R. T. Baker. **Bastard white-mahogany.**

"A tall, foliaceous tree, attaining sometimes a height of 100 feet, with a dark-colored, stringy bark. Timber pale-colored, darker than 'White-mahogany,' *E. acmenoides* Schau. It is subject to the attacks of a borer, which, of course, deteriorates its quality as a marketable timber. It is hard, close-grained, but is rather an inferior timber to 'White-mahogany,' a fact well known to timber-getters."

Distribution.—A tree sometimes 100 feet tall, found in the northern part of New South Wales, Australia.

32463. ANNONA SQUAMOSA L. **Sweetsop.**

From Papua. Presented by Mr. J. A. Hamilton, Port Moresby. Received January 20, 1912.

"The fruits of this variety are small, but flavor delicious; by cultivation it might be improved." (*Hamilton.*)

Seeds.

32464. DIOSPYROS SENEGALENSIS Perrott.

From Pretoria, Union of South Africa. Presented by Mr. C. L. Legat, Chief Conservator of Forests, Forest Department. Received January 22, 1912.

"A shrub or tree from 6 to 40 feet high or more. Wood much thought of by the natives, white, compact, or black in the center like ebony, and useful for many purposes. Fruit ⅔ to 1 inch in diameter, edible. Range from Abyssinia and Mozambique on the east to Angola, the Kongo, and the Gold Coast on the west. Apparently very widely scattered, known as monkey guava in the west, and as aje in Abyssinia." (*Hiern, Ebenaceae, pp. 165–166.*)

32470 to 32477.

From Chios, Greece. Presented by Mr. N. J. Pantelides. Received January 26 and 27, 1912.

Cuttings of the following; quoted notes by Mr. Pantelides:

32470 to 32474. FICUS CARICA L. **Fig.**

32470. "*Lombard.* Black with reddish interior."

32471. "*Vassilica* (Royal). Black."

32472. "*Ysterounelea.* This species bears fruit twice a year. They are very small but very sweet."

32473. "*Ambourcouna.* Black. Fruits twice a year."

32474. "*Metilinia.* White. These succeed also among oranges."

32475 to 32477. VITIS VINIFERA L. **Grape.**

32475. "*Apatsiana.* Black. Table variety."

32476. "*Crassera.* Black wine grapes noted for their great production."

32477. "*Areoussia.* Rose-colored wine and table grapes. From these grapes was made the ancient wine of Chios. This vine is long lived, and succeeds as a climber; it may cover thus a pavilion of 100 square meters [120 square yards], and may yield up to a ton of fruits."

32478 and 32479. ANNONA CHERIMOLA Miller. **Cherimoya.**

From Costa Rica. Presented by Mr. Carlos Wercklé, San Jose. Received January 25, 1912.

"Seed from two anonas from Judge Castro Carillo. He says they are very good and of extraordinary size." (*Wercklé.*)

32480. AGAVE CANTALA (Haw.) Roxb. **Manila maguey.**

From Manila, Philippine Islands. Presented by Mr. O. W. Barrett, Chief, Division of Experiment Stations, Bureau of Agriculture, through Mr. Lyster H. Dewey, of the Bureau of Plant Industry. Received January 29, 1912.

"Manila maguey is cultivated in the Philippines and to a limited extent in India, where it produces the fiber known as Bombay aloe. It is cultivated on a large scale in Java, producing a very excellent quality of fiber which has heretofore been placed on the market under the misleading name "Java sisal." The Javanese growers now propose that this fiber shall be called "cantala." It grows well in Java on rich, loamy soils, where the heavy rainfall and lack of lime make it impossible to cultivate sisal or henequen to good advantage. This plant would probably grow well in the eastern part of Porto Rico." (*Dewey.*)

32481 and 32482.

From Honolulu, Hawaii. Presented by Mr. J. E. Higgins, horticulturist, Hawaii Agricultural Experiment Station. Received January 29, 1912.

Seeds of the following:

32481. CITRUS LIMETTA Risso. **Lime.**

Kusaie. Cuttings of this variety received under S. P. I. No. 32460.

32482. CARISSA GRANDIFLORA (E. Mey.) DC. **Amatungulu.**

32484 and 32485. HORDEUM spp. **Barley.**

From Hwaiyuan, Anhwei, China. Presented by Dr. Samuel Cochran, Hope Hospital. Received January 29, 1912.

Seeds of the following; quoted notes by Dr. Cochran:

32484. "This is called *Nu er ta meh*, which means 'daughter barley.'"

32485. "Barley with long awns called *Mi ta meh* or 'rice barley.'"

32486. RUBUS sp. **Raspberry.**

From Newara Eliya, Ceylon. Collected by Mr. C. V. Piper, of the Bureau of Plant Industry. Received January 29, 1912.

"(No. 85, August 27, 1911.) A spiny-stemmed red raspberry. Fruit small, smooth, in clusters. Flowers white. Stems ascending 4 to 10 feet." (*Piper.*)

32487. PHASEOLUS TRILOBATUS (L.) Schreber.

From Coimbatore, India. Collected by Mr. C. V. Piper, of the Bureau of Plant Industry. Received January 29, 1912.

"(October 26, 1911.) A trailing legume, abundant on low ground." (*Piper.*)

Distribution.—From the Himalayas, where it ascends to an elevation of 7,000 feet, to Ceylon and Burma; also in the Malay Archipelago and in Nubia and Abyssinia.

32488. STIZOLOBIUM sp.

From India. Presented by I. H. Burkhill, Office of the Reporter on Economic Products to the Government of India, Indian Museum, Calcutta, through Mr. C. V. Piper, of the Bureau of Plant Industry. Received January 29, 1912.

"Cultivated by the natives in the neighborhood of Darjiling, under the name *Kaoso Simbi.*" (*Piper.*)

32489. STIZOLOBIUM sp.

From Bangalore, Mysore, India. Procured by Mr. C. V. Piper, of the Bureau of Plant Industry. Received January 29, 1912.

"Secured in the Agriculture Exhibit, October, 1911." (*Piper.*)

32490. ZEA MAYS L. **Corn.**

From Georgetown, Demerara, British Guiana. Presented by Mr. F. A. Stockdale, Assistant Director, Science and Agriculture and Government Botanic Gardens. Received February 1, 1912.

Creole.

32491 to 32655.

Seeds secured by Mr. C. V. Piper, of the Bureau of Plant Industry. Received November, 1911. Numbered February 1, 1912.

Quoted notes by Mr. W. J. Morse, of the Bureau of Plant Industry.

32491 to 32598. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

From Calcutta, India. Received November 17, 1911, from the Economic Botanist.

32491 to 32533. "These are black with small seeds and appear identical as to seeds with S. P. I. Nos. 24678 to 24689 received from India in 1909.

32491. "Reg. No. 32045. From Purtabghur, United Provinces."

32492. "Reg. No. 32046. From Sultanpur, United Provinces."

32493. "Reg. No. 32047. From Lucknow, United Provinces."

32494. "Reg. No. 31577. From Patna Division."

32495. "Reg. No. 32175. From Nocha, Farukhabad, United Provinces."

32496. "Reg. No. 32176. From Bahadurpur, Farukhabad, United Provinces."

32497. "Reg. No. 32177. From Ismail Digon, Farukhabad, United Provinces."

32498. "Reg. No. 32178. From Pasgawn, Kheri, Oudh, United Provinces."

32499. "Reg. No. 32179. From Bijna, Kheri, United Provinces."

32500. "Reg. No. 32180. From Sansarpur, Kheri, United Provinces."

32501. "Reg. No. 32501. From Chandeswa, Sitapur, United Provinces."

32502. "Reg. No. 32182. From Bhagantipur, Sitapur, United Provinces."

32491 to 32655—Continued.

32491 to 32598—Continued.

32491 to 32533—Continued.

32503. "Reg. No. 32183. From Nimkhar, Sitapur, United Provinces."

32504. "Reg. No. 32184. From Kauta, Unao, United Provinces."

32505. "Reg. No. 32185. From Lalopur, Unao, United Provinces."

32506. "Reg. No. 32186. From Mahanadpur, Unao, United Provinces."

32507. "Reg. No. 32187. From Sanksoha, Basantpur, Futteghur, United Provinces."

32508. "Reg. No. 32188. From Bahndolpur, Futteghur, United Provinces."

32509. "Reg. No. 32189. From Khera Khurd, Mainpuri, United Provinces."

32510. "Reg. No. 32190. From Lakhoura, Mainpuri, United Provinces."

32511. "Reg. No. 32191. From Mainpuri, United Provinces."

32512. "Reg. No. 32192. From Jaimoi, Mainpuri, United Provinces."

32513. "Reg. No. 32193. From Nasipur, Mainpuri, United Provinces."

32514. "Reg. No. 32194. From Tiswahisor, Hurdoi, United Provinces."

32515. "Reg. No. 32195. From Atwa Karsot, Hurdoi, United Provinces."

32516. "Reg. No. 32196. From Sanwaria, Hurdoi, United Provinces."

32517. "Reg. No. 32197. From Aslapur, Hurdoi, United Provinces."

32518. "Reg. No. 32198. From Jaipura, Hurdoi, United Provinces."

32519. "Reg. No. 32199. From Naira, Hurdoi, United Provinces."

32520. "Reg. No. 32200. From Barch, Etawah, United Provinces."

32521. "Reg. No. 32201. From Bhoiya, Etawah, United Provinces."

32522. "Reg. No. 32202. From Karayee, Etawah, United Provinces."

32523. "Reg. No. 32203. From Nangawan, Etawah, United Provinces."

32524. "Reg. No. 32204. From Etawah, United Provinces."

32525. "Reg. No. 32205. From Etawah, United Provinces."

32526. "Reg. No. 32209. From Shikohabad, United Provinces."

32491 to 32655—Continued.

32491 to 32598—Continued.

32491 to 32533—Continued.

32527. "Reg. No. 32210. From Bewar, United Provinces."

32528. "Reg. No. 32211. From Lakhimpur, United Provinces."

32529. "Reg. No. 32212. From Langawar, United Provinces."

32530. "Reg. No. 32213. From Panhar, United Provinces."

32531. "Reg. No. 32399. From Jaunpur, United Provinces."

32532. "Reg. No. 32874. *Bhatmas.* From Darjiling."

32533. "Reg. No. 31565. From Kalimpong, Darjiling."

32534 to 32538. "Black, speckled with brown. In size and shape the seed is identical with S. P. I. Nos. 32491 to 32533."

32534. "Reg. No. 31785. From Poona, Bombay. Black, very similar to *Nuttall*, S. P. I. No. 17253."

32535. "Reg. No. 34013. From Gurhwal, United Provinces."

32536. "Reg. No. 32206. From Chakrata, Dehra Dun, United Provinces."

32537. "Reg. No. 32030. From Kashmir."

32538. "Reg. No. 31704. From Simla, Punjab."

32539 to 32541. "These are brown with medium-sized seed and very similar to S. P. I. No. 20011B."

32539. "Reg. No. 32208. From Chakrata, Tahsil, Dehra Dun, United Provinces."

32540. "Reg. No. 32372. From Kashmir."

32541. "Reg. No. 31702. From Simla, Punjab."

32542. "Reg. No. 31567. From Kalimpong, Darjiling. Brown, similar to S. P. I. No. 24673."

32543. "Reg. No. 32873. From Darjiling; very similar to S. P. I. No. 32542."

32544. "Reg. No. 32032. From Kalimpong, Darjiling. Brown, quite similar to S. P. I. No. 17258."

32545. "Reg. No. 31701. From Kangra, Punjab. Seed olive yellow, small, much flattened, with burnt-umber hilum."

32546. "Reg. No. 32870. *Bhatmas.* From Darjiling. Olive yellow, medium small with burnt-umber hilum."

32547. "Reg. No. 32872. *Bhatmas.* From Darjiling. Straw yellow, medium small, much flattened, hilum russet colored."

32548. "Reg. No. 32543. From Kilburn & Co., Calcutta. Olive yellow, identical with S. P. I. No. 26160."

32549. "Reg. No. 31787. From Poona, Bombay. This sample contains olive-yellow seed, similar to S. P. I. No. 19186, and straw-yellow seed, very similar to S. P. I. No. 17273."

32550. "Reg. No. 32265. From Kachin Hills, Burma. Straw colored with very small flattened seed, and hilum burnt umber."

32551. "Reg. No. 31568. From Kalimpong. Olive yellow with dark-brown hilum; similar to S. P. I. No. 24704 in size and shape."

32491 to 32655—Continued.

32491 to 32598—Continued.

32552. "Reg. No. 31781. From Poona, Bombay. Olive yellow, with slate-colored hilum; similar in size and shape to S. P. I. No. 24704."

32553. "Reg. No. 31790. From Poona, Bombay. Very similar to S. P. I. No. 26160."

32554. "Reg. No. 31782. From Poona, Bombay. Very similar to S. P. I. No. 32552."

32555. "Reg. No. 32406. From a Chinese dealer of Tiretti Bazaar, Calcutta. Very similar to S. P. I. No. 26160."

32556. "Reg. No. 31703. From Simla, Punjab. Quite similar to S. P. I. No. 22901."

32557. "Reg. No. 31617. From Shillong. Straw yellow and brown seed. Identical with S. P. I. No. 24672."

32558. "*Bhatmas.* Reg. No. 32871. From Darjiling. Straw yellow with very dark-brown hilum; similar to S. P. I. No. 24697 in size and shape."

32559. "Reg. No. 31615. From Bhamo, Burma. Straw yellow, very similar to S. P. I. No. 17269."

32560. "Reg. No. 31779. From Poona, Bombay. Straw yellow, very similar to S. P. I. No. 17269."

32561. "Reg. No. 31778. From Poona, Bombay. Straw yellow, identical with S. P. I. No. 32560."

32562. "Reg. No. 31786. From Poona, Bombay. Straw yellow, seed identical with S. P. I. No. 24702."

32563. "Reg. No. 32405. From Chinese dealer of Tiretti Bazaar, Calcutta. Straw yellow, seed quite similar to S. P. I. No. 17278."

32564. "Reg. No. 31776. From Poona, Bombay. Straw yellow, very similar to S. P. I. No. 24696."

32565. "Reg. No. 31777. From Poona, Bombay. Straw yellow, identical with S. P. I. No. 32564."

32566. "Reg. No. 32583. From Madras Museum, Government farm, Trivandrum. Straw yellow, very similar to S. P. I. No. 24699."

32567. "Reg. No. 31789. From Poona, Bombay. Straw yellow, identical with S. P. I. No. 24699."

32568. "Reg. No. 31780. From Poona, Bombay. Straw yellow, very similar to S. P. I. No. 24899."

32569. "Reg. No. 31783. From Poona, Bombay. Straw yellow, identical with S. P. I. No. 24702."

32570. "Reg. No. 31788. From Poona, Bombay. Straw yellow, identical with S. P. I. No. 24696."

32571. "Reg. No. 31619. From Lashio, Hsenvi State, Northern Shan States, Burma. Straw yellow, very similar to S. P. I. No. 32559."

32572. "*Sudawpa.* Reg. No. 31173. From Ruby Mines, Upper Burma. Straw yellow, nearly identical with S. P. I. No. 17269."

32491 to 32655—Continued.

32491 to 32598—Continued.

32573. "Reg. No. 31784. From Poona, Bombay. Straw yellow. Very similar to S. P. I. No. 14954."

32574. "*Pe-nga-pi.* Reg. No. 32043. From Lashio, Northern Shan States, Burma. Straw yellow, with very small seed elliptical in shape and hilum russet colored."

32575. "Reg. No. 32214. From Myitkyina, Burma. Straw yellow, identical with S. P. I. No. 30574."

32576. "Reg. No. 31803. From Naga Hills, Assam. Straw yellow, very similar to S. P. I. No. 14954."

32577. "Reg. No. 31803. From Naga Hills, Assam. Straw yellow, identical with S. P. I. No. 30576."

32578. "Reg. No. 31626. From Tiddim, Chin Hills, Burma. Straw yellow, very similar to S. P. I. No. 24674."

32579. "Reg. No. 31566. From Kalimpong. Straw yellow, identical with S. P. I. No. 24674."

32580. "Reg. No. 31569. From Kalimpong. Straw yellow, very similar to S. P. I. No. 24674."

32581. "Reg. No. 32216. From Myitkyina, Burma. Straw yellow, very similar to S. P. I. No. 32580."

32582. "Reg. No. 31252. *Pyin.* From Maubin, Lower Burma. Straw yellow, with small seeds much flattened and brown hilum."

32583. "Reg. No. 31251. From Katha, Burma. Straw yellow, identical with S. P. I. No. 32582."

32584. "Reg. No. 32075. From Myitkyina, Burma. Straw yellow, with brown hilum, simlar to S. P. I. No. 32574, in size and shape."

32585. "Reg. No. 31426. From Nagpur, Central Provinces. Straw yellow, very similar to S. P. I. No. 32582."

32586. "Reg. No. 32217. From Myitkyina, Burma. Straw yellow, very similar to S. P. I. No. 32584."

32587. "Reg. No. 31249. From Thaton, Upper Burma. Straw yellow, very simlar to S. P. I. No. 32584."

32588. "Reg. No. 32215. From Myitkyina, Burma. Straw yellow, very simlar to S. P. I. No. 32584."

32589. "Reg. No. 31616. From Lower Chindwin, Burma. Straw yellow, similar to S. P. I. No. 32584."

32590. "Reg. No. 32074. From Katha, Burma. Straw yellow, similar to S. P. I. No. 32580.

32591. "Reg. No. 31614. From Mandalay, Burma. Straw yellow, similar to S. P. I. No. 32580."

32592. "Reg. No. 32592. From Gurhwal, United Provinces. Straw yellow, similar to S. P. I. No. 32580."

32593. "Reg. No. 31574. From Haka, Chin Hills, Burma. Straw yellow, identical with S. P. I. No. 24672."

32594. "Reg. No. 32029. From Kashmir. Straw yellow, identical with S. P. I. No. 22901."

32491 to 32655—Continued.

32491 to 32598—Continued.

32595. "Reg. No. 32373. From Kashmir. Straw yellow, identical with S. P. I. No. 32594."

32596. "Reg. No. 32012. Yields 12.55 per cent of oil. From Gurhwal, United Provinces. Straw yellow (cloudy), in size and shape similar to S. P. I. No. 32594."

32597. "Reg. No. 31250. *Pe-kyat* or *Pe-bok*. From Mandalay. Straw yellow, very similar to S. P. I. No. 32580."

32598. "Reg. No. 32207. From Chakrata, Tahsib, Dehra Dun, United Provinces. Straw yellow, very similar to S. P. I. No. 32596."

32599 to 32605. PHASEOLUS CALCARATUS Roxb.

32599. "Reg. No. 31806. From Naga Hills, Burma. Mottled."

32600. "Reg. No. 31808. From Kerhn, Naga Hills, Burma. Brown."

32601. "Reg. No. 31708. From Myitkyina, Burma. Brown."

32602. "Reg. No. 32396. From Kerhn, Naga Hills, Burma. Mottled."

32603. "Reg. No. 31709. From Myitkyina, Burma. Black."

32604. "Reg. No. 32031. From Kashmir, India. Black."

32605. "Mashyan. Reg. No. 32878. From Darjiling. Brown."

32606. PHASEOLUS RADIATUS L.

"Mashyan. Reg. No. 32880. From Darjiling. Maroon."

32607. PHASEOLUS RADIATUS L.

"Reg. No. 32877. From Darjiling. Mottled."

32608. PHASEOLUS MAX L.

"Bought on the market at Trichinopoly, August 31, 1911. (No. 68.)"

32609. VIGNA CYLINDRICA (Stickman) Skeels. **Catjang.**

(*Phaseolus cylindricus* Stickman, 1759, Herbarium Amboinense, in Linnæus's Amœnitates Academicæ, vol. 4, p. 132.)

The catjang bean has heretofore been listed in the inventories as *Vigna catjang* (Burm.) Walpers, 1839 (Linnæa, vol. 13, p. 533), which was based on *Dolichos catjang* published in 1768 by N. L. Burmann (Flora Indica, p. 161.) However, Stickman in 1759 had published the name *Phaseolus cylindricus* for the plant described and figured by Johannes Burmann (Rumph's Herbarium Amboinense, vol. 5, 1747, p. 383, pl. 139, fig. 1), which is cited under *Dolichos catjang* by N. L. Burmann. It is therefore necessary to use the specific name *cylindricus* for the catjang bean.

"Bought on the market at Trichinopoly, August 31, 1911. (No. 65.) Clay."

32610. DOLICHOS LABLAB L. **Bonavist bean.**

"Bought on the market at Trichinopoly, August 31, 1911. (No. 67.) White."

32611. DOLICHOS LABLAB L. **Bonavist bean.**

"Bought on the market at Trichinopoly, August 31, 1911. (No. 66.) Buff."

32612. DOLICHOS BIFLORUS L.

"From the market at Trichinopoly, August 11, 1911. (No. 70.)"

32491 to 32655—Continued.

32613. SYNTHERISMA CONSANGUINEA (Gaud.) Skeels.

(*Digitaria consanguinea* Gaudichaud, 1826, in Freycinet, Voyage Autour du Monde, Botanique, p. 410.)

The seeds of this grass, received as an unidentified Syntherisma, prove to be those of the species *consanguinea*. This species seems not to have been given a binomial name under the genus Syntherisma, the proper designation for the grasses sometimes known as Digitaria.

"A slender species growing in the Calcutta Botanical Gardens in great abundance. (No. 103, September 8, 1911.)"

Distribution.—This was first found in the Hawaiian Islands, and is now known to grow in the Malay Archipelago and in Polynesia.

32614. MNESITHEA LAEVIS (Retz.) Kunth.

"A slender, erect species, abundant in the Calcutta Botanical Gardens. (No. 102, September 8, 1911.)"

Distribution.—Southern Asia, extending from Afghanistan eastward to Ceylon and Burma, and through the Malay Archipelago to Java.

32615 to 32621. STIZOLOBIUM spp.

"Most of these forms were included by Hasskarl under the name *Mucuna velutina*, but their exact botanical relations remain to be established. Secured from the agricultural experiment station, Buitenzorg, Java."

32615. "Seeds ashy with indefinite smoky spots."

32616. "Seeds pale greenish."

32617. "Seeds greenish buff."

32618. "Seeds liver colored."

32619. "Seeds black."

32620. "Seeds brownish marbled and speckled with brown and black."

32621. "Seeds ash gray, marbled and speckled with brown and black."

32622 to 32631. VIGNA SESQUIPEDALIS (L.) W. F. Wight.

"Seeds received from Java, November, 1911."

32622. "*Glejor*. Brown, very similar to S. P. I. No. 21561."

32623. "*Tjinde*. Brown, identical with S. P. I. No. 32622."

32624. "*Pandjang*. Brown, very similar to S. P. I. No. 32623."

32625. "*Agel*. Brown, identical with S. P. I. No. 32624."

32626. "*Kroepoek*. Brown, lighter than S. P. I. No. 32625."

32627. "*Poejoek*. Brown, identical with S. P. I. No. 32626."

32628. "*Oesves*. Brown, identical with S. P. I. No. 32626."

32629. "*Dadap*. Black."

32630. "*Palembang*. Black.

32631. "*Roedjii*. Black."

32632 to 32638. VIGNA SINENSIS (Torner) Savi. **Cowpea.**

"From Java. Received November, 1911."

32632. "*Roedjii*. Reddish brown, quite similar to S. P. I. No. 17369, but seeds smaller."

32491 to 32655—Continued.

32632 to 32638—Continued.

32633. "*Dadap.* Reddish brown, identical with S. P. I. No. 32632."

32634. "*Dadap.* Yellowish, quite similar to S. P. I. No. 29282."

32635. "*Roedjii.* Yellowish, very similar to S. P. I. No. 21509A."

32636. "Originally from Marseille. Very similar to S. P. I. No. 17425."

32637. "*Blackeye*, identical with S. P. I. No. 21297."

32638. "*No. 5 Groeboeg.* Speckled reddish brown."

32639 to 32655. "Seed received from Java, November, 1911."

32639. VIGNA CYLINDRICA (Stickman) Skeels. **Catjang.**

"*Mantri.* Browneye."

32640 to 32644. PHASEOLUS CALCARATUS Roxb.

32640. "*Katjang Kajoe Aro.* Black."

32641. "*Katjang Kajoe Aro.* Brown."

32642. "*Katjang Kajoe Aro.* Mottled."

32643. "*Katjang Kajoe Aro.* Mottled, but more of a reddish brown color."

32644. "*Katjang Kajoe Aro.* Light brown."

32645. CANAVALI GLADIATUM (Jacq.) DC. **Sword bean.**

"*Reuzen Canavallia.* Red."

32646. CANAVALI GLADIATUM (Jacq.) DC. **Sword bean.**

"*Reuzen Canavallia.* Yellow."

32647. CANAVALI ENSIFORME (L.) DC. **Jack bean.**

32648. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

"Dull black, identical with S. P. I. No. 16790B, a selection from *Cloud*, S. P. I. No. 16790."

32649. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

"Straw yellow, very similar to S. P. I. No. 24695."

32650. CRACCA VILLOSA HIRTA (Hamil.) Kuntze.

Distribution.—Throughout the plains of India from the base of the Himalayas to Ceylon and Malakka and eastward through the Malay Archipelago to Java.

32651. CLITORIA LAURIFOLIA Poir.

Distribution.—A suberect undershrub found in Brazil and northward to Colombia, and in the West Indies; also in Malakka and Java.

32652. CASSIA PATELLARIA DC.

Distribution.—A herbaceous perennial found in the vicinity of Orizaba in southern Mexico and southeastward through Central America to the northern part of South America; also in the West Indies.

32653 to 32655. ANDROPOGON SORGHUM (L.) Brot.

32653. "Black."

32654. "Red."

32655. "Dark red."

32656. DIOSPYROS KAKI L. f. **Persimmon.**

From Ormond, Fla. Presented by Mr. James P. Vining, Bretton Inn. Received February 2, 1912.

Ormond Winter. Fruits of this variety were received in the middle of January. They were of excellent flavor and one among the lot was found to be seedless.

Cuttings.

32657 to 32659.

From Bombay, India. Purchased from Ralli Bros. Received January 30, 1912.

Seeds of the following:

32657. DOLICHOS BIFLORUS L.

"*Kulthi.*"

32658. PHASEOLUS ACONITIFOLIUS Jacq.

"*Muth.*"

32659. VIGNA CYLINDRICA (Stickman) Skeels. **Catjang.**

"*Chowli.*"

32660. RADICULA ARMORACIA (L.) Robinson. **Horse-radish.**

From Moscow, Russia. Received through Mr. Frank N. Meyer, agricultural explorer, February 2, 1912.

"(No. 1020, January 8, 1912.) A variety of horse-radish, coming from Soosdal, Vladimir Government, Russia, famous throughout the country for its fine qualities and said to be the best horse-radish in Europe. Is in special demand in Russia during the winter holidays. To be tested in the northern United States in deep, rich soil." (*Meyer.*)

32661. TRITICUM AESTIVUM L. **Wheat.**

From Njoro, British East Africa. Presented by Mr. W. G. Sewall. Received January 23, 1912.

Rieti.

32662 to 32676.

From Kozlov, Tambov Government, Russia. Received through Mr. Frank N. Meyer, agricultural explorer, January 29, 1912.

Cuttings of the following:

32662. AMYGDALUS NANA × DAVIDIANA.

From Kozlov, Tambov Government, Russia.

"(No. 1005, December 27, 1911.) This species was originated by Mr. I. V. Mijurin at Kozlov, with the idea of creating a perfectly hardy peach, able to withstand the severe climate of central Russia. This hybrid produces non-edible fruits and has the characteristic growth of *Amygdalus davidiana*, while the form and appearance of the fruit is more or less that of *A. nana*. Said to be very floriferous and extremely showy in springtime. Possesses value as an ornamental tall shrub for the northern United States and may serve as a hybridization factor in creating races of perfectly hardy peaches, as Mr. Mijurin's experiences were that while *A. davidiana* and *A. nana* do not hybridize with *A. persica*, this hybrid does." (*Meyer.*)

32662 to 32676—Continued.

32663. PRUNUS ARMENIACA L. **Apricot.**

From Kozlov, Tambov Government, Russia.

"(No. 1006, December 27, 1911.) An apricot originated by Mr. I. V. Mijurin in Kozlov, said to bear large, yellowish fruits of good flavor. Withstands unprotected the severe climate of central Russia and is probably the hardiest variety of apricot known. Of unusual value as a novel hardy fruit for the northern United States." (*Meyer.*)

32664. PRUNUS FRUTICOSA Pallas.

From Kozlov, Tambov Government, Russia.

"(No. 1007, December 27, 1911.) A variety of Siberian cherry, said to bear very abundantly, fruits of large size. Originated by Mr. I. V. Mijurin in Kozlov. Of high value like preceding number." (*Meyer.*)

32665. PRUNUS FRUTICOSA Pallas.

From Kozlov, Tambov Government, Russia.

"(No. 1008, December 27, 1911.) A variety of Siberian cherry, of very dwarf growth, and bears sweet fruits, which is a great rarity among this species. Originated by Mr. I. V. Mijurin in Kozlov. Of high value like the preceding numbers." (*Meyer.*)

32666. SORBUS AUCUPARIA × AMERICANA. **Rowan.**

From Kozlov, Tambov Government, Russia.

"(No. 1009, December 27, 1911.) A rowan bearing large, sweet-flavored fruits of dark-red color, which are said to be pleasant eating. Originated by Mr. I. V. Mijurin at Kozlov. Of special value like No. 1006 (S. P. I. No. 32663)." (*Meyer.*)

32667. RIBES AUREUM Pursh. **Golden currant.**

From Kozlov, Tambov Government, Russia.

"(No. 1010, December 27, 1911.) A variety of currant said to bear large fruits of good, sweet flavor, ranging in colors from dark purple to pale yellow. Extremely hardy, thriving on even the poorest soils. Originated by Mr. I. V. Mijurin at Kozlov. Of particular value for the northern sections of the United States." (*Meyer.*)

32668. ROSA SPINOSISSIMA × RUGOSA. **Rose.**

From Kozlov, Tambov Government, Russia.

"(No. 1011, December 27, 1911.) A rose of low, dense growth and exceptionally hardy. Flowers said to be large and of a pale-rose color. Originated by Mr. I. V. Mijurin at Kozlov. Of special value for the northern United States." (*Meyer.*)

32669. PRUNUS SPINOSA × DOMESTICA. **Plum.**

From Kozlov, Tambov Government, Russia.

"(No. 1012, December 28, 1911.) A plum, being a hybrid between *Prunus spinosa* and *P. domestica*, Green Reine Claude variety. Originated by Mr. I. V. Mijurin at Kozlov and temporarily named by him *Bjeli Tjorn*, meaning white sloe. Fruits almost round, medium size, of yellowish white color, and good keeping qualities. Trees of medium size, rather slow in growth, but are heavy bearers and exceptionally hardy. Of high value for the colder sections of the United States." (*Meyer.*)

32662 to 32676—Continued.

32670. PRUNUS SPINOSA × DOMESTICA. **Plum.**

From Kozlov, Tambov Government, Russia.

"(No. 1013, December 28, 1911.) A plum of the same parentage as the preceding numbers. Originated by Mr. I. V. Mijurin at Kozlov, and temporarily named by him *Dessertnaia Tjorn Chorny*, meaning black dessert sloe. Fruits dark purple, not very large, of sweet, characteristic spicy flavor, and possessing good keeping and shipping qualities. Trees of vigorous growth. Of high value like the preceding number." (*Meyer.*)

32671. PRUNUS SPINOSA × DOMESTICA. **Plum.**

From Kozlov, Tambov Government, Russia.

"(No. 1014, December 28, 1911.) A plum of the same parentage as the preceding numbers. Originated by Mr. I. V. Mijurin at Kozlov and temporarily named by him *Tjorn Sladky Chorny*, meaning sweet black sloe. Fruits of a dark-purplish color, medium size, and having a very sweet flavor, with an aftertaste all their own. The trees are very productive and of vigorous growth. Of high value like the preceding numbers." (*Meyer.*)

Seed received under S. P. I. No. 32424.

32672. PRUNUS SPINOSA × DOMESTICA. **Plum.**

From Kozlov, Tambov Government, Russia.

"(No. 1015, December 28, 1911.) A plum of the same parentage as the preceding numbers. Originated by Mr. I. V. Mijurin at Kozlov, and temporarily named by him *Zimni Tjorn Chorny*, meaning black winter sloe. Fruits of dark-purple color, medium size, of sweet, spicy flavor, and possessing admirable keeping and shipping qualities, lasting as long as three months. They do not drop easily from the trees even when fully ripe. Trees of vigorous, rather tall growth, and very hardy. Of high value like the preceding numbers." (*Meyer.*)

32673. PRUNUS SPINOSA × DOMESTICA. **Plum.**

From Kozlov, Tambov Government, Russia.

"(No. 1016, December 28, 1911.) A plum of the same parentage as the preceding numbers. Originated by Mr. I. V. Mijurin at Kozlov and temporarily named by him *Reine Claude Zolotisti*, meaning Golden Reine Claude. Fruits of medium size and a beautiful yellow color; shape spherical, slightly flattened; juicy; taste sweet and spicy. Of good keeping and shipping qualities and considered an excellent market variety. Trees of medium growth, very healthy and cold resistant. Of high value like the preceding numbers." (*Meyer.*)

32674. PRUNUS AVIUM L. **Cherry.**

From Kozlov, Tambov Government, Russia.

"(No. 1017, December 28, 1911.) A variety of cherry originated by Mr. I. V. Mijurin at Kozlov, and named by him *Knyashnaia Severa*, meaning Queen of the North. Fruits large, of pale-red color, and fresh sour-sweet flavor, ripening toward the end of June; possesses excellent shipping and keeping qualities and persists on the trees even when over ripe. Trees of vigorous, straight growth, making but few side branches; trunks smooth and clean. This variety seems to give special satisfaction in dry, cold climates like, for instance, that of Samara Government, Russia, where cherries as a rule grow very poorly. It is considered in Russia to be a decided acquisition to their hardy fruit trees and will no doubt be found of special value in the northern sections of the United States." (*Meyer.*)

32662 to 32676—Continued.

32675. CYDONIA OBLONGA Miller. **Quince.**

From Kozlov, Tambov Government, Russia.

"(No. 1018, December 28, 1911.) A quince selected by Mr. I. V. Mijurin at Kozlov; is able to withstand successfully the severe climate of central Russia, where quinces ordinarily perish when the thermometer drops to —20° C. (—4° F.) This variety has stood —35° C. (—31° F.) and remained unhurt. Fruits medium size, of oblong shape. Valuable as a home fruit for the northern United States." (*Meyer.*)

32676. CYDONIA OBLONGA Miller. **Quince.**

From Kozlov, Tambov Government, Russia.

"(No. 1019, December 28, 1911.) A variety of quince selected by Mr. I. V. Mijurin at Kozlov, bearing medium-sized, round fruits. For further remarks see the preceding number." (*Meyer.*)

32678. AMYGDALUS PERSICA NECTARINA Ait. **Nectarine.**

Grown at the Plant Introduction Field Station, Chico, Cal. Numbered February, 1912.

Crosby. Same as S. P. I. No. 11777, budded on *Amygdalus davidiana*, S. P. I. No. 26604.

32679. MYRCIARIA EDULIS (Vell.) Skeels.

From Paraguay. Presented by Dr. Moisés S. Bertoni, Estacion Agronomica, Puerto Bertoni. Received February 3, 1912.

"*Ih va hai.*"

32680 to 32689. TRITICUM spp. **Wheat.**

From Argentina. Presented by Dr. Carlos Thays, Director, Botanic Garden, Buenos Aires. Received January 30, 1912.

Seeds of the following; quoted notes by Dr. Thays:

32680. TRITICUM DURUM Desf.

"*Tangaro.* Cultivated in the central pampas. Production 1,900 kilos [about 2 tons] per hectare [2.47 acres]."

32681 to 32689. TRITICUM AESTIVUM L.

32681. "*Barleta.* Cultivated in the southern part of the province of Buenos Aires. Production 1,440 kilos per hectare."

32682. "*French Red.* From the western part of the province of Buenos Aires. Yield 1,550 kilos per hectare."

32683. "*Tusella.* From central pampas. Yield 1,480 kilos per hectare."

32684. "*Barleta.* From Chubut. Yield 1,900 kilos per hectare."

32685. "*Barleta.* From the south of Cordoba. Yield 1,690 kilos per hectare."

32686. "*Australian.* From southern Santa Fe. Yield 1,380 kilos per hectare."

32687. "*Hungarian.* From central pampas. Yield 1,290 kilos per hectare."

32688. "*Barleta.* From Rio Negro. Yield 1,320 kilos per hectare."

32689. "*French.* From southern San Luis. Yield 1,550 kilos per hectare."

32691 to 32694. PERSEA spp.

From the State of Pueblo, Mexico. Presented by Mr. William W. Canada, American consul, Vera Cruz. Received February 3, 1912.

Seeds of the following:

32691. PERSEA AMERICANA Miller. **Avocado.**

32692. PERSEA MEXICANA (Meissn.) Hemsl.

Distribution.—The province of Vera Cruz in southern Mexico.

32693. PERSEA sp.

32694. PERSEA LINGUE (Ruiz and Pav.) Nees.

See No. 24208 for description.

32695. PHASEOLUS VULGARIS L. **Bean.**

From Paraguay. Presented by Dr. Moisés S. Bertoni, Estacion Agronomica, Puerto Bertoni. Received February 3, 1912.

32696. ANACARDIUM OCCIDENTALE L. **Cashew.**

From State of Rio de Janeiro, Brazil. Presented by Mr. R. E. Demaret, Sao Paulo. Forwarded by Mr. C. A. Lull, Tiffin, Ohio. Received February 1, 1912.

See No. 5202 for description.

Seeds.

32697 to 32702.

From Chelsea, London, England. Purchased from James Veitch & Sons (Ltd.). Received February 5, 1912.

Plants of the following; quoted notes by James Veitch & Sons:

32697. ROSA WILLMOTTIAE Hemsl. **Rose.**

"A very pretty species with single, rosy carmine flowers, 1 inch to 1¼ inches in diameter, which are freely produced during June. Very distinct from any other rose in cultivation."

Distribution.—On the slopes of the Sangpan Mountains near the Tibetan frontier of western China, at an elevation of 9,500 to 11,000 feet.

32698. BERBERIS POLYANTHA Hemsl. **Barberry.**

"A deciduous shrub, 5 to 6 feet high, with yellow flowers, followed by coral-red fruits. Bright-green obovate leaves borne in clusters of about eight each."

Distribution.—Collected in western China.

32699. BERBERIS VERRUCULOSA Hemsl. and Wilson. **Barberry.**

"A dense-growing evergreen shrub about 2 feet high. Leaves leathery, ovate, spiny, shining above, glaucous beneath. Flowers yellow, borne in pairs, succeeded by violet-purple fruits."

Distribution.—An evergreen shrub found on the mountains in the vicinity of Tatienlu, in the Province of Szechwan, in China.

32700. BERBERIS JAPONICA BEALEI (Fortune) Skeels. **Barberry.**

"Not far from the town of Tun Chee in the green-tea country of Hankow, China. A handsome evergreen species somewhat resembling *Berberis fremontii* of northern Texas." (Dr. W. Van Fleet.)

See No. 31244 for previous introduction.

32697 to 32702—Continued.

32701. BERBERIS GAGNEPAINI C. K. Schneider. **Barberry.**

"An elegant evergreen barberry of compact growth, flowering freely during June in this country. The pale-yellow flowers are succeeded by glaucous purple berries."

Distribution.—Slopes of the mountains at an elevation of 10,000 feet in northeastern India and western China.

32702. IRIS WILSONI C. H. Wright. **Iris.**

"A new species, resembling *Iris sibirica* in habit. Flowers pale yellow, outer segments veined red brown, borne on stems 8 to 12 inches high. First flowered in July, 1909, at Coombe Wood."

Distribution.—Known only from western China.

32703. CAMPOMANESIA sp.

From Puerto Bertoni, Paraguay. Presented by Dr. Moisés S. Bertoni, Estacion Agronomica. Received February 6, 1912.

"*Ihvavira.*"

32704 and 32705.

From Inhamban, Portuguese East Africa. Presented by Mr. Pliny W. Keys, Methodist Episcopal Mission. Received February 6, 1912.

Seeds of the following; quoted notes extracted from Sims's Forest Flora of Portuguese East Africa:

32704. GARCINIA sp.

"*Pembe.* Either a branched bush, an erect tree, or a bushy tree; in each case the stems set with numerous firm, little, more or less evergreen branches, which give the tree a pyramidal shape. Leaves usually in threes or opposite. Fruit 1 to 2 inches long, oblong, edible, yellow at first or when ripe, two seeded, and used by the natives to make a fermented liquor. Abundant in sandy soil through the M'Chopes country to Inhamban."

32705. STRYCHNOS GERRARDI N. E. Brown.

"*Quaqua.* A small tree, 3 to 10 meters high, without thorns, and with exceedingly variable leaves. Fruit one celled, globose, 5 to 7 centimeters in diameter, small, thin, spotted, with a hard shell, and numerous flat seeds lying in an acidulous edible pulp. Abundant from Natal to Inhamban, and especially on the sandy soils."

32706. ABIES NUMIDICA De Lannoy.

From Babois, Algeria. Presented by Dr. L. Trabut, Algiers, Algeria. Received February 6, 1912.

"This tree grows with the cedar. It is a very splendid tree, flourishing here at 1,800 meters." (*Trabut.*)

Distribution.—A tree, sometimes 75 feet high, found on the slopes of mountains at an elevation of 5,000 to 7,000 feet, in the Province of Constantine, in the northern part of Algeria.

32708 to 32712. ARALIA CORDATA Thunb. **Udo.**

From Yokohama, Japan. Purchased from L. Boehmer & Co. Received February 7, 1912.

Roots of the following:

32708. "*Shiro oku.*"
32709. "*Kan udo.*"
32710. "*Wase aka.*"
32711. "*Oku aka.*"
32712. "*Shiro wase.*"

32713 to 32735. PHOENIX DACTYLIFERA L. **Date.**

From Egypt. Procured through Mr. A. Aaronsohn, Managing Director, Jewish Agricultural Experiment Station, Haifa, Palestine. Received February 2, 1912.

"A collection of date palms secured from Upper Egypt by Mr. Aaronsohn under my direction. The object of the expedition was primarily to secure the *Wahi* date, of which specimens were secured by Mr. David Fairchild in 1900–1901. This name, as was pointed out by Mr. H. A. Rankin in 1904, is merely an English translation of the Arabic word meaning 'oasis date.' Mr. Rankin further suggests that the dates at Fayum, such as Mr. Fairchild secured, are probably from the oasis of Bahriyeh. Prof. G. Schweinfurth, of Berlin, informed me in July, 1911, that a large date by this name is imported into Egypt from the oasis of El Khargeh.

"Besides this variety, Mr. Aaronsohn hoped to get some of the fine Nubian varieties that have been reported by various travelers. In October, 1911, Mr. Aaronsohn found at Aswan trees of the Wahi variety which originally came from the oasis of Khargeh. He was unable to secure offshoots from these particular trees. Mr. Aaronsohn did, however, secure a number of offshoots of other varieties of considerable importance, as shown in the following list. The most important of these is probably the Sultany. If these offshoots prove true to name this one variety would undoubtedly repay the expense of the whole trip." (*Walter T. Swingle.*)

32713. "*Sukkoti.*[1] This variety comes from the village of Sukka, in Nubia, and along with those of Say is said to be one of the best that grows on the banks of the Nile. Burckhardt (Nubia, ed. 2, p. 752) says: 'They are of the largest kind, generally 3 inches long. As there is no navigation northward through the Batn el Hadjar, these dates reach northern parts of Nubia only in small quantities at present.' The date is listed by Delchevalerie as a Nubian variety." (*Walter T. Swingle.*)

32714. "*Gundela.*[1] This is probably the Gondaila of Fletcher's report in Bulletin No. 28 of the Department of Lands and Agriculture at Bombay, page 17. He states that it ripens in September, grows in sandy soil, and is a large, yellowish brown variety." (*Walter T. Swingle.*)

32715. "*Kilma*, or *Sultany.*[1] According to Lipsius this is considered the best date in Nubia and is believed to keep for two years. This date, perhaps the most celebrated of the Nubian country, was formerly exported in some quantities through Egypt to Constantinople, where it is said to have gone to the Sultan's palace. It is perhaps the most famous of the Upper Egyptian varieties." (*Walter T. Swingle.*)

32716. "*Ibrimy.* A famous variety common in the district of Babir, and in Lower Nubia. It ripens in September and is a brown color. The fruit is said to resemble somewhat the carob in flavor." (*Walter T. Swingle.*)

[1] "Drying dates from Upper Egypt." (Aaronsohn.)

32713 to 32725—Continued.

32717. "*Hayany.* A variety from the town of Hayany in Upper Egypt. The dates are said by Delchevalerie to be made up into a paste and eaten by the inhabitants of that part of Egypt. See S. P. I. No. 6438." (*Walter T. Swingle.*)

32718. "*Siwi.*"

32719. "*Adel Malakawi.*" [1]

32720. "*Bartamoda.*" [1]

32721. "*Amhat.* As to this variety there seems to be much confusion in the Egyptian literature, several varieties being undoubtedly confounded under the same name. Until the dates fruit it will be difficult to tell more about them." (*Walter T. Swingle.*)

32722. "*Zagloul.*" See No. 6439 for description.

32723. "*Bint Aischa.*" See No. 6440 for description.

32724. "*Amary.* Perhaps the same as *Amri* (S. P. I. 6445). The name would indicate a red date, which is a common date in Lower Egypt, frequently exported to Europe in a dry condition." (*Walter T. Swingle.*)

32725. "*Samany.*" See No. 6441 for description.

32726. CITRUS sp.

From Hangchow, China. Presented by Mrs. J. H. Judson, Hangchow College. Received February 7, 1912.

32728. PROSOPIS STEPHANIANA (Bieb.) Kunth.

From Ayaba, Oued Rh'ir, south of Biskra, Algeria. Presented by Dr. L. Trabut, Algiers, Algeria. Received February 8, 1912.

"Grows on alkaline deserts." (*Trabut.*)

See No. 29996 for previous introduction.

32729. ARALIA CALIFORNICA S. Watson. **California spikenard.**

From California. Procured by Mr. G. P. Rixford, of the Bureau of Plant Industry, stationed in San Francisco. Received February 7, 1912.

Procured for breeding purposes. See No. 32169 for description.

32730. NITRARIA SCHOBERI L.

From Spencers Gulf, South Australia. Presented by Prof. J. H. Maiden, Director, Royal Botanic Garden, Sydney, New South Wales, Australia. Received February 8, 1912.

The following notes were written by Prof. Maiden, while standing opposite plants of *Nitraria schoberi* at Port Augusta at the northern end of Spencers Gulf, South Australia.

"Fruits the size of a small cherry with a narrowish, grooved stone. Very fleshy, translucent, and of a reddish brown color, remarkably like a Kentish cherry. Not at all bad eating, with a slight bitter flavor, not at all unpleasant."

32731. CHAETOCHLOA MAGNA (Griseb.) Scribn. **Wild millet.**

From Millstone, Md. Collected by Mr. Ivar Tidestrom, of the Bureau of Plant Industry, September 1, 1911. Received February 8, 1912.

"This species, a large succulent annual, resembles the cultivated foxtail millet. It grows among shrubs and high herbs or in the open in mucky soil along the coast from Maryland southward. I am unable to say whether or not it can be grown in ordinary field soil, but it seems worthy of trial." (*A. S. Hitchcock.*)

[1] "Drying dates from Upper Egypt." (Aaronsohn.)

32733 to 32747. PYRUS COMMUNIS L. **Pear.**

From Collegeville, Minn. Presented by Rev. John B. Katzner, Superintendent, Trial Station, Minnesota State Horticultural Society, Collegeville. Received October, 1911. Numbered February 9, 1912.

Cuttings of the following varieties of pears, procured from Germany by Mr. Katzner; quoted notes by him:

32733. "*Madam Favre.* A vigorous grower and a prolific bearer. Fruit large, of very good quality, suitable for dessert. Ripens in September."

32734. "*Schoene Julie.* A prolific tree of good growth. Small fruit, very good quality, useful for dessert. Ripens in October."

32735. "*Herzogin Elsa.* A prolific variety of good growth. Large fruit, very good quality, suitable for dessert. Ripens in September."

32736. "*Beuckes Butterbirne.* A vigorous grower. Fruit, medium, very good quality, useful for dessert. Ripe in September."

32737. "*Gute Louise von Avranches.* A very vigorous and prolific variety. Quite large fruit, very good to excellent quality, suitable for dessert. Ripe in October."

32738. "*Magdalenebirne.* Vigorous and very prolific. Small fruit of very good quality, suitable for dessert. Ripe from July to August."

32739. "*Gellerts Butterbirne.* A vigorous and very prolific variety. Large fruit of very good to excellent quality, which may be used for dessert."

32740. "*Triumph von Viennes.* A vigorous and prolific variety. Fruit is one of the largest grown. It is of very good quality and is suitable for dessert. Ripe from September to October."

32741. "*Amanlis Butterbirne.* Vigorous and very prolific. Large fruit of very good to excellent quality, suitable for dessert. Ripens in September."

32742. "*Kuemmelbirne.* Fruit ripe from November to January. Can be used for dessert and for cooking."

32743. "*Philipps Birne.*" Same description as for No. 32735.

32744. "*Trockener Martin.* Tree of good growth and very prolific. Small fruit which is very good for cooking. Ripe from December to March."

32745. "*Baronsbirne.* A good bearer and grower. Large fruit, the very best for cooking purposes. Fruit ripe from January to April."

32746. "*Hofratsbirne.* A very vigorous variety. Fruit large, of very good to excellent quality, suitable for dessert. Ripe from October to November."

32747. "*Englische Sommerbirne.* A vigorous grower and prolific bearer. Fruit very good, useful for dessert. Ripens in September."

"All the above varieties I have tried. While they are not hardy with us, they showed no signs of blight and therefore may be very good for other parts in the United States, as in Michigan, eastern Wisconsin, and Eastern and Western States."

32748 and 32749. DIOSPYROS KAKI L. f. **Persimmon.**

From Sapporo, Japan. Presented by Mr. Y. Takahashi, botanist and vegetable pathologist, Hokkaido Agricultural Experiment Station. Received February 10, 1912.

Cuttings of the following:

32748. Variety *Hachiya.* Japanese name *Ko shikaki.*

32749. Variety *Hiyakume.* Japanese name *Hiyakume kaki.*

32750. DIOSPYROS KAKI L. f. **Persimmon.**

From Kawanishimura, Settsu, Japan. Presented by Mr. M. Kishimoto, Japan Nursery Co. (Ltd.) Received February 12, 1912.

"Scions from male persimmon trees." (*Kishimoto.*)

32751. PRUNUS sp. **Prune.**

From Langenbuhl, Thun, Berne, Switzerland. Presented by Mr. Felix Wenger. Received February 12, 1912.

Quoted note by Mr. R. Wenger, of Newberg, Oreg., who suggested the procuring of this prune.

"This prune resembles the Italian, but is much larger and contains more sugar. It is locally known as the 'grafted prune.' I have had considerable experience in prune growing in this State, and I am confident that if this prune would do as well here as it did at Langenbuhl, it would be of great benefit to the entire Northwest."

32752. FICUS ROXBURGHII Wallich. **Fig.**

From Sibpur, Calcutta, India. Presented by Maj. A. T. Gage, Director, Royal Botanic Garden. Received February 12, 1912.

Distribution.—A middle-sized tree found on the lower slopes of the Himalayas in northern India, rising to an elevation of 6,000 feet and extending from the Province of Assam to the valley of the Indus River.

32753. PUNICA GRANATUM L. **Pomegranate.**

From Raleigh, N. C. Presented by Mr. William J. Andrews. Received February 10, 1912.

"Skin greenish yellow, with no red color, moderately thick. Dissepiment broad-triangular. Grains medium large, obovoid, beautifully carmine colored. Seeds large and hard. Very juicy and acid (too much so for eating without sugar). Large fruit well adapted for making sherbets, etc." (*T. H. Kearney.*)

32757 to 32774.

From Russia. Received through Mr. Frank N. Meyer, agricultural explorer, Bureau of Plant Industry, February 16, 1912.

Seeds of the following:

32757. PRUNUS sp. **Plum.**

This and the next lot of seed were received under the name *Prunus ussuriensis*, but as yet the place of publication of this name has not been found.

From Souchodole, Tula Government, Russia.

"(No. 1727a, December 30, 1911.) A wild plum, from the Usuri district, eastern Siberia. Said to be of large size, red in color, and an early ripener. Considered to improve in flavor by being frozen. Obtained from Mr. D. D. Kashgaroff at Souchodole. Will probably thrive better in the eastern sections of the United States than in the Middle West." (*Meyer.*)

32758. PRUNUS sp. **Plum.**

From Souchodole, Tula Government, Russia.

"(No. 1728a, December 30, 1911.) A variety of wild plum coming from the Usuri district, eastern Siberia. Said to be of medium size and of a yellow color. Obtained like the preceding number." (*Meyer.*)

32757 to 32774—Continued.

32759. PRUNUS PADUS L. **Cherry.**

From Souchodole, Tula Government, Russia.

"(No. 1729a, December 30, 1911.) A small-fruited species from the Usuri district, eastern Siberia. Grows in the jungle. Said to bear edible fruits. Obtained like the preceding number." (*Meyer.*)

32760. AMYGDALUS NANA L.

From Kozlov, Tambov Government, Russia.

"(No. 1730a, December 28, 1911.) A form of almond obtained from Mr. I. V. Mijurin at Kozlov; possibly a hybrid." (*Meyer.*)

32761. RIBES MEYERI Maxim. **Currant.**

From Souchodole, Tula Government, Russia.

"(No. 1731a, December 30, 1911.) Variety *turkestanica*. A black currant coming from Russian Turkestan. Said to bear unusually large, fine-flavored fruits. Obtained from Mr. D. D. Kashgaroff at Souchodole." (*Meyer.*)

32762. RIBES PROCUMBENS Pallas. **Currant.**

From Souchodole, Tula Government, Russia.

"(No. 1732a, December 30, 1911.) A species of currant called *Markakulskaia smarodnaia* from the Marka Kul region, Altai Mountains, southwestern Siberia. Said to bear berries of a brownish black color as large as cherries. Occurs on moist, cool places and apparently objects to drought and heat. To be tested in southern Alaska and in the moist, elevated regions of the United States. Obtained like the preceding number." (*Meyer.*)

Distribution.—The province of Dauria in eastern Siberia.

32763. CLEMATIS TANGUTICA (Maxim.) Korsh. **Clematis.**

From Kozlov, Tambov Government, Russia.

"(No. 1733a, December 28, 1911.) An ornamental, climbing, woody clematis, bearing large, yellow flowers. Has proved to be perfectly hardy in central Russia. Obtained from Mr. I. V. Mijurin, who stated that he had received the seeds from Tibet." (*Meyer.*)

Distribution.—On the slopes of the mountains at an elevation of 11,000 to 13,000 feet in Tibet and Mongolia.

32764. LILIUM MONADELPHUM (var. SZOWITSIANUM) × ELEGANS.

From Kozlov, Tambov Government, Russia.

"(No. 1734a, December 28, 1911.) A lily originated by Mr. I. V. Mijurin at Kozlov; bears flowers of a deep-yellow color and is extraordinarily floriferous; apparently of great promise as an ornamental perennial for the hardy border. Bulbs of this hybrid are stated by Mr. Mijurin to weigh up to 6 pounds a piece." (*Meyer.*)

32765. TRITICUM AESTIVUM L. **Wheat.**

From Kharkof, Russia.

"(No. 1735a, December 22, 1911.) A variety of bearded winter wheat called *Krassny osistaia*, much grown in southern Russia. Gives an abundant crop and stands winter cold and summer heat better than most other varieties. Obtained from Mr. P. V. Budrin, Director of the Kharkof Selection Station." (*Meyer.*)

32757 to 32774—Continued.

32766. TRITICUM AESTIVUM L. **Wheat.**

From Kharkof, Russia.

"(No. 1736a, December 22, 1911.) A variety of beardless winter wheat, called *Krassny besostaia*, extensively grown in southern Russia and possessing much the same qualities as the preceding number. Obtained from the same source." (*Meyer.*)

32767. HORDEUM VULGARE L. **Barley.**

From Rostov, Russia.

"(No. 1737a, December 19, 1911.) A new variety of black summer barley, called *Chorny gladko-osti*. First found at the agricultural experiment station in Taganrog, southern Russia. This is a decided improvement on the ordinary barleys with their hooked awns, which make them especially objectionable for feeding purposes. Obtained at the agricultural experiment station near Rostov, through Mr. S. M. Groobnieff, Secretary of the Don-Kuban-Tersk Agricultural Society. This barley seems to do well in regions with rather high summer temperatures and where there is only a relatively light precipitation. To be used exclusively for breeding purposes." (*Meyer.*)

32768. PANICUM MILIACEUM L. **Millet.**

From Kharkof, Russia.

"(No. 1738a, December 22, 1911.) A variety of millet called *Chorny proso*. It has large, black seeds and is a medium-early ripener. In Kharkof it is considered to be the best variety. Obtained from Mr. P. V. Budrin, Director of the Agricultural Selection Station at Kharkof." (*Meyer.*)

32769. HELIANTHUS ANNUUS L. **Sunflower.**

From Rostov, Russia.

"(No. 1739a, December 19, 1911.) A variety of sunflower called *Zelenka*, which has large, plump seeds, is cultivated for oil production exclusively, and is specially recommended as being more resistant to the ravages of orobanches than the ordinary varieties. Obtained like No. 1737a (S. P. I. No. 32767)." (*Meyer.*)

32770. PISUM SATIVUM L. **Pea.**

From Moscow, Russia.

"(No. 1740a, January 10, 1912.) A tall-growing sugar pea, said to be a prolific bearer, with seeds that swell out in cooking and have a meaty flavor. Called *Mergeimski*, probably derived from the German name 'Meerheim.' Purchased in Moscow." (*Meyer.*)

32771 PISUM SATIVUM L. **Pea.**

From Moscow, Russia.

"(No. 1741a, January 10, 1912.) A variety of garden pea called *Chorny-piati;* has black eyes. Said to be of tall growth and of ordinary quality. Purchased in Moscow." (*Meyer.*)

32772. PISUM SATIVUM L. **Pea.**

From Moscow, Russia.

"(No. 1742a, January 4, 1912.) A variety of garden pea obtained from the originator, Mr. D. von Roodzinski, in charge of the Selection Station near Moscow; called by him *Stambovi-Petrowska-Razumowski*. An erect grower with fasciated stem. Is a prolific bearer; the flowering period is confined to

32757 to 32774—Continued.

four or five days, which results in uniform maturing of the crop. Mr. Roodzinski stated that this variety is 65 per cent more productive than the ordinary varieties of garden peas. Will apparently be of special value for the more northern regions of the United States. Mr. Roodzinski's number for this variety is 576." (*Meyer.*)

32773. LINUM USITATISSIMUM L. **Flax.**

From Moscow, Russia.

"(No. 1743a, January 4, 1912.) A variety of flax selected by Mr. D. von Roodzinski at Moscow for four years. A very tall, erect grower reaching a height of 105 centimeters [41 inches] in height. Called *Psowski* flax No. 802. Obtained from the originator." (*Meyer.*)

32774. CITRULLUS VULGARIS Schrad. **Watermelon.**

From Moscow, Russia.

"(No. 1744a, Januarv 10, 1912.) A watermelon called *Monastirski arboos* said to be much grown in southern Russia as a market variety. Is round in shape and of medium size; has thin skin, light green in color, with dark encircling bands; the flesh is red and of very sweet taste; it is a medium-early ripener. Purchased in Moscow." (*Meyer.*)

32775 and 32776. POPULUS spp. **Poplar.**

From Slottsskogen, Gothenburg, Sweden. Received through Mr. Stuart J. Fuller, American consul, February 17, 1912.

Cuttings of the following:

32775. POPULUS TREMULA L.

See No. 30577 for previous introduction.

32776. POPULUS NIGRA L.

See No. 30055 for previous introduction.

32777 to 32783.

Procured by Mr. C. V. Piper, of the Bureau of Plant Industry. Received February 16, 1912.

Seeds of the following; quoted notes by Mr. Piper:

32777. CRACCA VILLOSA PURPUREA (L.) Kuntze.

"From the botanical gardens, Buitenzorg, Java. A legume that is being experimented with at the Buitenzorg garden as a green-manure crop. It possesses considerable promise for this purpose."

Distribution.—Throughout the plains of India, and generally scattered in the Tropics.

32778. CRACCA VILLOSA ARGENTEA (Lam.) Kuntze.

"A large, half-shrubby species, which is being experimented with at the Buitenzorg Botanic Garden, as a green-manure crop."

32779. MEIBOMIA PARVIFOLIA (DC.) Kuntze.

From Buitenzorg, Java.

"A legume, which closely resembles in appearance the Florida beggarweed and is probably of similar value."

Distribution.—Throughout the plains of India from the Himalayas, where it ascends to an elevation of 7,000 feet, to Ceylon, and eastward to China and Japan, and in the Malay Archipelago.

32777 to 32783—Continued.

32780. Bradburya pubescens (Benth.) Kuntze.

"A leguminous vine being experimented with at Buitenzorg, Java, as a green-manure crop. It has much the habit of *Bradburya plumieri*."

32781. Apocopis sp.

"An unknown grass growing in the garden at Buitenzorg, Java, from seed collected in New Guinea. It apparently has considerable promise as a pasture grass for the extreme southern States."

32782. Indigofera linifolia (L. f.) Retz.

From Pusa, India.

"An annual legume abundant throughout the upper Ganges Valley, and also in the Bombay Presidency, India. In some sections it is considered one of the best native legume varieties. It should succeed well under southern California conditions."

32783. Zornia diphylla (L.) Pers.

From Bangalore, India.

"An annual legume found throughout the upper Ganges Valley and in the Bombay Presidency, and of similar value to the preceding number."

32784 to 32826.

From Seharunpur, India. Presented by Mr. A. C. Hartless, Superintendent, Government Botanic Gardens, at the request of Mr. C. V. Piper of the Bureau of Plant Industry. Received February 8, 1912.

Seeds of the following; quoted notes by Mr. Piper:

32784. Andropogon halepensis (L.) Brot.

"This is the variety of *Andropogon halepensis* common throughout the Ganges Valley. It is quite different from the ordinary variety of Johnson grass introduced into this country, having a much larger, looser, drooping panicle, but also having the same development of rootstocks and being equally weedy. It should be tested with care."

32785. Artemisia sp.

This was received under the name *Artemisia jacoeumviridis*, but as yet the place of publication of this name has not been found.

32786. Bauhinia purpurea L.

"Very similar to *Bauhinia variegata* (S. P. I. No. 32787), but the flowers are red."

Distribution.—A medium-sized tree found in India from the foot of the western Himalayas to Ceylon, and eastward to China.

32787. Bauhinia variegata L.

"A small tree, with butterfly-shaped leaves, and showy white flowers."

Distribution.—A tree found throughout India from the western Himalayas to Burma, and eastward to China.

32788. Belou marmelos (L.) Lyons. **Bael.**

32789. Berberis aristata DC. **Barberry.**

32790. Bischofia javanica Blume.

"What has been identified as this same species seems to have been introduced into Florida some time ago, and at Oneco there is a beautiful specimen which, although injured during the great freezes, has recovered and is now a very beautiful shade tree." (*David Fairchild.*)

32784 to 32826—Continued.

Distribution.—A roundheaded tree found in India from the tropical slopes of the Himalayas in Kumaon eastward and southward through the hills of the Dekkan Peninsula, and from Assam to Tenasserim, and in the Malay Archipelago and the Pacific islands.

32791. BOMBAX MALABARICUM DC. **Red silk-cotton tree.**

32792. BUTEA MONOSPERMA (Lam.) Taub.

"A leguminous tree with very handsome foliage and producing a great abundance of orange-scarlet blossoms. It is deciduous, grows 30 to 35 feet high, and is rather wide spreading."

32793. CALAMUS TENUIS Roxburgh. **Rattan.**

"One of the rattan palms."

Distribution.—A climbing palm found on the tropical slopes of the Himalayas from Kumaon eastward and southward through Bengal, Assam, Chittagong, and Sylhet to Burma, and extending to Cochin China.

32794. CALLICARPA MACROPHYLLA Vahl.

Distribution.—A shrub with wandlike branches and white berries, found in the northern and eastern parts of India

32795. CALLISTEMON CITRINA (Curtis) Skeels.

(*Metrosideros citrina* Curtis 1794, Botanical Magazine, vol. 7, pl. 260.)

The seeds of this ornamental myrtaceous shrub from Australia were received under the name *Callistemon lanceolatum* DC. 1828 (Prodromus, vol. 3, p. 223) which was based on *Metrosideros lanceolata* J. E. Smith 1797 (Transactions of the Linnean Society, vol. 3, p. 272). Dr. Smith cited "*M. citrina.* Curt., Mag. t. 260," and remarked in part as follows: "I would never change a name that has been generally in use, whether published or not; but this is too preposterous to be retained." As the present rules of botanical nomenclature require the retaining of the first specific name applied to a species, Curtis's name is here restored.

Callistemon citrina is found along streams and near the coast of the eastern part of Australia in Queensland, New South Wales, and Victoria.

32796. CASSIA sp.

32797. CELTIS AUSTRALIS L.

"A very splendid shade tree, growing to a height of 40 feet. It has a shapely crown, and the branches are somewhat pendulous. It is said to be a rapid grower."

Distribution.—A variable tree found in southern Europe, northern Africa, and eastward in Asia to India.

32798. CINNAMOMUM CAMPHORA (L.) Nees and Eberm. **Camphor.**

32799. DIOSPYROS MONTANA Roxb.

"A small, erect, deciduous tree, growing to a height of about 30 feet. Is quite ornamental and useful where small trees are desirable."

32800. DIOSPYROS PEREGRINA (Gaertn.) Guerke.

"A vigorous species growing about 30 feet high with a dense, spreading habit. The round russet-colored fruits are very attractive, but are not eaten. These make a beautiful contrast with the bright glossy-green leaves."

32801. DURANTA REPENS L.

"A shrub growing to a height of 6 or 8 feet and covered with white or lavender flowers in drooping racemes, followed by an abundance of orange-colored

32784 to 32826—Continued.

berries. Frequently the bush bears blossoms and fruits at the same time. It also makes excellent hedges."

Distribution.—A small tree or shrub found in sandy soil in southern Florida, in the West Indies, and from Orizaba in Mexico southeastward to Peru and Brazil.

32802. EHRETIA ACUMINATA R. Br.

"A deciduous tree, rather dwarf, producing white flowers in abundance."

32803. ERYTHRINA VESPERTILIO Benth. **Heilaman tree.**

Distribution.—A shrub or low tree found along streams in North Australia and Queensland.

32804. EUCALYPTUS SALIGNA Smith. **Couranga.**

Distribution.—A tall tree with smooth, silver-gray, shining bark, found along streams in New South Wales, Australia.

32805. FICUS LUCESCENS Blume.

"A deciduous species, with compact habit, growing to a height of about 30 to 35 feet. It is said to grow very rapidly. Leaves bright glossy green."

Distribution.—A low tree found on the plains and lower hills of India and eastward through the Malay Archipelago to Java.

32806. FICUS RELIGIOSA L. **Pipal.**

"The peepul tree. One of the most generally grown shade trees throughout India, is quite hardy, and is grown far north into the Punjab region. While it thrives best under moist conditions, it will nevertheless withstand much drought."

Distribution.—A tree found in the lower Himalayan forests in Bengal, and in central India; generally planted in India and Ceylon and the Malay Archipelago.

32807. GLEDITSIA FEROX Desf.

Distribution.—A tree with stiff, straight spines, found in the northern part of China; often cultivated as an ornamental.

32808. GMELINA ARBOREA Roxburgh.

"Native name *Khumbar*. Considerably grown as a shade tree in the upper Ganges Valley. Deciduous, growing 40 to 50 feet high, and with a round, compact crown. It should do well in southern California."

Distribution.—A large tree bearing dull-yellow flowers in panicles, found throughout India from the base of the Himalayas southward and eastward, and extending through the Malay Archipelago to the Philippines.

32809. HETEROPHRAGMA ADENOPHYLLUM (DC.) Seem.

"A very handsome shade tree with abundant yellow blossoms; much grown at Lucknow."

Distribution.—A medium-sized tree with stout panicles of large yellowish brown flowers, found in the eastern part of India, extending from eastern Bengal and Assam southward through Burma to Tenasserim and the Andaman Islands.

32810. HOLARRHENA ANTIDYSENTERICA (Roth) Wall. **Conessi.**

Distribution.—A small tree found on the tropical slopes of the Himalayas and throughout the drier forests of India.

32784 to 32826—Continued.

32811. HOLOPTELEA INTEGRIFOLIA (Roxb.) Planchon. **Indian-elm.**

Distribution.—A large, spreading tree found in India from the lower ranges of the Himalayas southward and eastward to Ceylon and Cochin China.

32812. KYDIA CALYCINA Roxburgh.

Distribution.—A tree with large panicles of white or pink flowers, found in India from the tropical slopes of the Himalayas in Kumaon eastward to Burma and southward to the Coromandel Coast.

32813. LAGERSTROEMIA PARVIFLORA Roxburgh.

Distribution.—A tree with small white flowers found in India from the base of the western Himalayas southward throughout the Dekkan Peninsula.

32814. LAGERSTROEMIA SPECIOSA (L.) Persoon.

"A beautiful tree cultivated throughout India, producing a great abundance of beautiful purple flowers. It is closely related to the crape myrtle of the South, but the flowers are much larger and handsomer. It should succeed in Florida and southern California."

32815. LANTANA sp.

32816. LEUCAENA GLAUCA (L.) Bentham.

32817. NYCTANTHES ARBOR-TRISTIS L. **Hursingar.**

"A dwarf tree with spreading top and highly scented white flowers."

Distribution.—A small tree with flowers in heads, found in India at an elevation of 1,000 to 3,000 feet; generally cultivated in the Tropics.

32818. OROXYLON INDICUM (L.) Vent.

See No. 29183 for description.

32819. OWENIA CERASIFERA F. Mueller. **Queensland-plum.**

"A handsome evergreen tree; the fruit is eaten."

Distribution.—A small tree growing along the Burdekin River in Queensland, Australia.

32820. PARKINSONIA ACULEATA L.

32821. PHOENIX FARINIFERA Roxburgh.

"The leaves of *Phoenix farinifera* are made into coarse sleeping mats in India, while the split petioles are fashioned into baskets. In China the fiber is used for brushes." (*Dodge, Useful Fiber Plants.*)

"A dwarf species, adapted to sandy and otherwise dry and barren land, but prefers the vicinity of the sea. Berry shining black, with a sweet mealy pulp." (*Mueller, Select Plants.*)

Distribution.—Along the Coromandel Coast of southern India, and in the northern part of Ceylon.

32822. PHOENIX PALUDOSA Roxburgh.

"A stout Indian species, not very tall, of value for decorative culture." (*Mueller, Select Plants.*)

"The leaves supply material for rough ropes in the Sundarbans, which are used for securing boats, logs, etc., and its leaves are also employed for thatching." (*Dodge, Useful Fiber Plants.*)

Distribution.—A small tree found at the mouths of rivers along the coast of India from Bengal to Burma and in the Andaman Islands; also in Siam and Cochin China.

32784 to 32826—Continued.

32823. PHOENIX ZEYLANICA Trimen.

A moist low-growing species occurring in Ceylon, attaining a height of from 6 to 20 feet, and much resembling *Phoenix sylvestris*.

Distribution.—A small tree growing in the southern and western parts of Ceylon.

32824. PHYLLANTHUS EMBLICA L. **Emblic myrobalan.**

32826. TOONA CILIATA Roemer. **"Toon tree."**

"A splendid, rapidly growing shade tree much grown in northern India. It produces excellent timber."

32827 and 32828. PISTACIA VERA L. **Pistache.**

From Russian Turkestan. Purchased from Mr. Vladimir F. Gnesin, Tashkend. Received February 16, 1912.

Seeds of the following; quoted notes by Mr. Gnesin:

32827. "From north of Andijan about 60 miles. From Isboskent north 38 miles. Altitude about 4,000 feet."

32828. "From east northeast of Andijan near Tcharvok. Altitude about 3,000 feet."

32829 to 32836.

From Imperial Estate "Murgab," Bairam-Ali, Oasis of Merv, Russian Turkestan. Received through Mr. Frank N. Meyer, agricultural explorer, Bureau of Plant Industry, February 19, 1912. Collected by him in November, 1911.

Trees of the following; quoted notes by Mr. Meyer:

32829. ULMUS DENSA Litvinov. **Elm.**

"(No. 997.) An ornamental elm, forming a dense head of branches, which are often clothed with corky wings. Stands great heat and a fair percentage of alkaline matter in the soil. Bears the name of *Stamboul*, implying, perhaps, that it came from Constantinople."

Distribution.—The province of Bokhara in the southern part of Turkestan.

32830. ULMUS DENSA Litvinov. **Elm.**

"(No. 998.) An ornamental elm, much like the former, but not of as strong growth. Head globular when young, but as it grows older it loses this regularity of outline and often requires a large space to come to full maturity. This variety is locally called *Kitaisky*, implying that it came from China." (*Meyer.*)

32831. ULMUS sp. **Elm.**

"(No. 999.) A variety or perhaps a species of elm called *Charavidny*. It is of remarkably dense growth, sprouting out a little distance above the ground, into a number of stems, which form an umbrellalike head of foliage, which is so dense that it seems always twilight, even at bright noon, in an avenue of these trees. This elm apparently prefers a climate with long, hot summers and winters not too cold. It withstands a fair amount of alkali in the soil and in the irrigation water and would be of special value as a shade tree in the hot and dry interior valleys of California, in Arizona, Texas, and New Mexico." (*Meyer.*)

Note: "The Turki name for elm is *Karagatch* or *Karayagatch*, meaning black wood. The Russians in Turkestan, however, have come to give the name *Karagatch* exclusively to the roundheaded, densely growing varieties of elms." (*Meyer.*)

32829 to 32836—Continued.

32832. PRUNUS ARMENIACA L. **Apricot.**

"(No. 1000.) A native central Asian variety, called *Bjelaia Zwezda*, meaning white star. Originated in the oasis of Samarkand. Fruits large, of pale-yellow color, very aromatic." (*Meyer.*)

32833. PRUNUS ARMENIACA L. **Apricot.**

"(No. 1002.) A native central Asian variety of apricot, called *Bairam-Ali*. Said to be of excellent qualities." (*Meyer.*)

32834. PRUNUS ARMENIACA L. **Apricot.**

"(No. 1001.)" Cuttings of this received under S. P. I. No. 32348. See this number for description.

32835. PRUNUS ARMENIACA L. **Apricot.**

"(No. 1003.)" Cuttings of this received under S. P. I. No. 32349. See this number for description.

32836. PRUNUS ARMENIACA L. **Apricot.**

"(No. 1004.)" Cuttings received under S. P. I. No. 32350. See this number for description.

32837. LANGUAS GALANGA (L.) Stuntz. **Galangale.**

From the island of Cebu. Presented by Mr. O. W. Barrett, Chief, Division of Experiment Stations, Bureau of Agriculture, Manila, P. I. Received February 19, 1912.

"This root is used in place of ginger, or perhaps in preference thereto. The plant is known in the Visayas as *Langcauas* and as *Lancoas* in Pampanga, Luzon; it is only semicultivated anywhere. It is used both raw and cooked with fish and meats." (*Barrett.*)

32840 and 32841.

From Mexico. Presented by Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz, Mexico. Received February 19, 1912.

Seeds of the following; quoted notes by Dr. Purpus:

32840. PEDILANTHUS APHYLLUS Boiss.

"Wax plant from Tehuacan, Puebla."

32841. PINUS GREGGII Engelm. **Pine.**

"From Esperanza, Puebla."

32842. PERSEA AMERICANA Miller. **Avocado.**

From Guatemala City, Guatemala. Presented by Mr. Geo. A. Bucklin, jr., American consul general. Received February 20, 1912.

"Seeds of the round variety from Amatitlan."

32843 and 32844.

From Manila, Philippine Islands. Presented by Mr. O. W. Barrett, Chief, Division of Experiment Stations, Bureau of Agriculture. Received February 20, 1912.

"Roots of the following plants which are found in comparatively moist situations and in half shade; should prove desirable ornamentals." (*Barrett.*)

32843. (Undetermined.) **Aroid.**

32844. (Undetermined.)

"A zinziberaceous plant that reaches a height of 10 to 15 feet." (*Barrett.*)

32845 to 32859. PHOENIX DACTYLIFERA L. **Date.**

From Gourara, Algeria. Presented by Dr. L. Trabut, Algiers, Algeria, at the request of Mr. Walter T. Swingle, of the Bureau of Plant Industry. Received February 19, 1912.

Fruits of the following; notes by Dr. Trabut:

32845. *Timedouel.* From the oasis of Oulad Said.

32846. *Timoudjedel.* From the oasis of Oulad Said.

32847. *Tinakorr.* From the oasis of El Barka.

32848. *Tinhoud.* From the oasis of Heha.

32849. *Fillal.* From the oasis of Adjediral.

32850. *Adham el Hejd.* From the oasis of El Barka.

32851. *Tazerzait.* From the oases of Timimoun and Oulad Said.

32852. *Takarbouchett.* From the oasis of Timimoun.

32853. *Tinasser.* From the oasis of Heha.

32854. *Ahartann.* From the oasis of Timimoun.

32855. *Tinaassou.* From the oasis of Oulad Said.

32856. *Timdjouhart.* From the oasis of Timimoun.

32857. *Timleah.* From the oasis of Timimoun.

Note: Name on sack containing these fruits was *Timleha.*

32858. *Tilemson.* From the oasis of Timimoun.

32859. *Degla.* From the oasis of Taghouzi.

32860. PRUNUS PSEUDO-CERASUS Lindl. **Japanese flowering cherry.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Co. Received February 19, 1912.

Seeds of the flowering cherry from the island of Oshima, for use in experiments to find a suitable stock for the double-flowered varieties.

32863. DIOSPYROS LOTUS L. **Wild persimmon.**

From Tangsi, China. Presented by Rev. Alex. Kennedy, through Rev. J. M. Farnham, Shanghai, China. Received February 14, 1912.

Cuttings.

32864 to 32866. DIOSPYROS KAKI L. f. **Persimmon.**

From Hiroshima, Japan. Purchased from Rev. H. Loomis, Yokohama. Received February 23, 1912.

Cuttings of the following; names and notes by Rev. Mr. Loomis:

32864. "*Giumbo.* Supposed to be scions of this variety, which is considered the best in Japan for drying."

32865. "*Saijo.*"

32866. "*Gusho.*"

32867 to 32872. DIOSPYROS KAKI L. f. **Persimmon.**

From Kawanishimura, Settsu, Japan. Presented by Mr. M. Kishimoto, Japan Nursery Co. (Ltd.). Received February 24, 1912.

Plants of the following; quoted notes by Mr. Kishimoto:

32867. "*Gusho.* Shape flat, taste sweet."

32867 to 32872—Continued.

32868. "*Fuyu.* Large, sweet variety."

32869. "*Mino.* Very large, astringent variety."

32870. "*Kubo.* Very early, sweet variety."

32871. No label.

32872. No label.

NOTE.—These two unlabeled plants are *Kubo*, listed under S. P. I. No. 32870, and *Hachiya*, a long, astringent variety. They can probably be identified when they fruit.

32873. MAURITIA VINIFERA Mart. **Buriti.**

From Bahia, Brazil. Presented by Mr. Southard P. Warner, American consul. Received February 27, 1912.

"A beautiful palm, which I saw in the greatest abundance in the swamps of Piauhy and Goyaz; it is called *Buriti* by the inhabitants, and is the *Mauritia vinifera* of Martius. This plant is not only the most beautiful, but one of the loftiest in the country; the leaves are fan shaped and form a large round ball at the top of the stem, after the manner of the Carnahuba. It produces a great number of nuts about the size of a small egg, covered with rhomboidal scales arranged in a spiral manner; between these scales and the albuminous substance of the nut there exists an oily pulp of a reddish color, which the inhabitans of Crato boil with sugar and make into a sweetmeat. In Piauhy they prepare from this pulp an emulsion which, when sweetened with sugar, forms a very palatable beverage, but if much used it is said to tinge the skin a yellowish color. The juice of the stem also forms a very agreeable drink, but to obtain it the tree must be cut down, when several holes about 6 inches square, 3 deep, and about 6 feet apart are cut in the trunk with a small axe, which in a short time become filled with a reddish colored liquid having much the flavor of sweet wine." (*G. Gardner, Travels in the Interior of Brazil, p. 171–172.*)

32874. PERSEA AMERICANA Miller. **Avocado.**

From Guatemala City, Guatemala. Presented by Mr. S. Billow. Received February 26, 1912.

"Seeds of an avocado stated to be the largest and most deliciously flavored variety that is grown in Guatemala. They are now (February 22) in season." (*Billow.*)

32875. CITRUS NOBILIS Lour.(?) **Tangerine.**

From Algiers, Algeria. Presented by Dr. L. Trabut. Received February 26, 1912.

"*Clementine.*"

Cuttings.

32877. TRITICUM DURUM Desf. **Wheat.**

From Atbazar, Akmolinsk district, Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, Bureau of Plant Industry. Received February 27, 1912.

"(No. 1745a, November, 1911.) A very large hard wheat, called *Afrikanski.* Obtained through Mr. E. H. Brittenham, assistant manager of the Omsk office of the International Harvester Co. of America. See No. 1631a (S. P. I. No. 32175) for further remarks." (*Meyer.*)

32878 to 32882.

From Granada, Spain. Received from Mr. Pedro Giraud, at the request of Mr. William A. S. Davenhill, British consulate, February 26, 1912.

Cuttings of the following; quoted notes by Dr. Gustav Eisen, Academy of Sciences, San Francisco, Cal.:

32878. FICUS CARICA L. **Fig.**

"*Isabella.* This is cultivated extensively, I might say preferably, in and about Granada. It is a medium-sized fig, rounded turbinate, white in color, with reddish pulp. In shape it resembles the *Ficus hirta* of Japan, with a well set neck. It is an exceedingly good fig and one of the best table varieties I have tasted. It was ripe in September and we still had good fruit in November, a long season for any fig. This fig, as far as I know, has not been introduced in California."

32879. VITIS VINIFERA L. **Grape.**

"*Jeresiana.* This is the predominant grape in Granada. It resembles the *Verdal* as grown in California, but is sweeter, though perhaps smaller in size. Its pulp is firm and stands shipment well, the large, white bunches apparently as perfect after having stood the transportation over country roads as if they had just been picked from the vine. It is a very desirable table variety and one which seems suited to a high altitude. It is also a good bearer, a hardy plant, and altogether a profitable grape. I have not observed it in California."

32880. OLEA EUROPEA L. **Olive.**

"*Cuatro hermanos*, from Canales. These olives are of good size and early maturity, ripening in November. They occur always in fours, sitting close together and forming a cross with four arms on the very stem. It is said to be one of the best olives for both oil and pickling. The olive from this locality is considered one of the hardiest and is suited to districts situated on the limits of possible olive culture, Canales being about 4,000 feet above Granada and 6,000 above sea level, and subject to heavy winds, heavy frosts, and winter snows. Still, olive culture is profitable around Canales and every available space of ground is covered with trees."

32881. PUNICA GRANATUM L. **Pomegranate.**

"*Granados de la Vega.*"

32882. CYDONIA OBLONGA Miller. **Quince.**

"From Antequera, said to be the best."

32883 and 32884.

From Spain. Received from Mr. Pedro Giraud, at the request of Mr. William A. S. Davenhill, British consulate, Granada, February 26, 1912.

Seeds of the following; quoted notes by Dr. Gustav Eisen, California Academy of Sciences, San Francisco, Cal.:

32883. CUCUMIS MELO L. **Muskmelon.**

"*San Martin.* This is the principal autumn fruit in Spain. It is related to the Casaba, but is of even better quality. Ripens from October to January. It is picked two weeks before being fully ripe and then kept in the dark. In shape it is oblong, rounded; skin rough with longitudinal green and warty ribs, between which the skin is colored bright green. Flesh transparent, yellowish amber to deep orange, solid, sweet, and highly flavored. A very superior variety, which can not be praised too highly."

32884. ALLIUM CEPA L. **Onion.**

"Large white onion from Dilar."

32885. CYMBOPOGON sp. **Lemon grass.**

From Douglas Dale, Jeolikote Post Office, United Provinces. India. Presented by the Superintendent, Kumaon Government Gardens, Mr. Norman Gill. Received February 28, 1912.

Procured for the experiments with oil-producing grasses being carried on by the Office of Drug-Plant Investigations.

Plants.

32886. DIOSPYROS sp. **Persimmon.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Co. Received February 28, 1912.

Cuttings.

32890 and 32891. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

From Blacksburg, Va. Grown by the Virginia Agricultural Experiment Station. Received February 27, 1912.

Seeds of the following; quoted notes by Mr. W. J. Morse:

32890. "*Duggar.* Grown under No. 17268C at the Virginia Experiment Station, Blacksburg, Va., 1911. A field mass selection at Arlington Experimental Farm in 1907 out of S. P. I. No. 17268, *Ito San.* An olive-yellow seeded variety of medium maturity found especially promising in Alabama and Virginia."

32891. "*Austin.* The progeny of S. P. I. No. 17263 grown under No. 17263 at Virginia Experiment Station, Blacksburg, Va., 1911; originally from S. P. I. No. 6397 from Pingyang, Korea. This variety was also distributed under Agrostology No. 1539. A late olive-yellow seeded variety found especially promising in Virginia, Tennessee, and southern Pennsylvania."

32892. CAREX PHYSODES Bieb.

From Peshy Kara Kum Desert, Turkestan. Presented by Mr. W. W. Mackie, Esperanza, Sonora, Mexico, through Mr. D. A. Brodie, Acting Agriculturist in Charge, Office of Farm Management, Bureau of Plant Industry. Received February 29, 1912.

"This carex grows abundantly on the loose desert sand of the Peshy Kara Kum Desert of southern Turkestan. It produces excellent feed for horses, camels, sheep, donkeys, etc., with less than 4 inches of rain per annum. It grows only on the loose sand. The soil expert would class this sand as medium. To protect itself from the elements when the roots are exposed by the winds each root and rootlet gathers about itself a layer of sand several times its diameter, holding it against considerable strain and wear." (*Mackie.*)

32894 to 32900. PHOENIX DACTYLIFERA L. **Date.**

From the Siwa Oasis. Procured by Mr. George J. Salem, Cairo, Egypt. Received February 26, 1912.

Fruits of the following varieties: native names given by Mr. Salem; translations in parenthesis by Mr. Alexander Aaronsohn, Bureau of Plant Industry:

32894. *Frihy* (spirited).

32895. *Gazaly* (antelope). "This variety is not very productive, though its dates are marvelous in flavor, appearance, and power to keep long." (*Salem.*)

32894 to 32900—Continued.

32896. *Gorm-Gazaly* (antelope's abode).

32897. *Kaiby.*

32898. *Saidy* (from Said, rural).

32899. *Wedi* (valley or creek).

32900. *Wishk-Gobeil* (mountain slope).

32901. DIOSPYROS KAKI L. f. **Persimmon.**

From Algiers, Algeria. Presented by Dr. L. Trabut. Received March 2, 1912.

"*Boufarik.* A new variety. Fruit green, large, round, flattened, very good." (*Trabut.*)

32902. NEPHELIUM LAPPACEUM L. **Rambutan.**

From Buitenzorg, Java. Presented by Mr. W. G. Gobius, Secretary to the Department of Agriculture. Received March 1, 1912.

See No. 25165 for general description of this fruit.

32906 to 32909. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

The following list represents some promising varieties of soy beans grown in quantity at the Arlington Experimental Farm, Virginia, in 1911. Numbered March 4, 1912, for convenience in recording distribution.

Seeds of the following; quoted notes by Mr. W. J. Morse:

32906. "*Virginia.* Grown under No. 19186D. A pure field selection at Arlington farm in 1907 out of S. P. I. No. 19186, from Newchwang, Manchuria, 1906. A medium-late brown-seeded variety of considerable promise."

32907. "*Peking.* Grown under No. 17852B. A pure field selection at Arlington Experimental Farm in 1907 out of S. P. I. No. 17852, *Meyer*, from Peking, China. A medium-late variety with small black seeds. Very prolific and especially promising as a hay variety."

32908. "*Chestnut.* Grown under No. 20405B. A field mass selection at Arlington Experimental Farm in 1907 out of S. P. I. No. 20405, *Habaro*, from Khabarovsk, Siberia, 1906. A medium-early brown-seeded variety of promise in the more northern States."

32909. "*Auburn.* Grown under No. 21079A. A field mass selection at Arlington Experimental Farm in 1907 out of S. P. I. No. 21079, *Shingto*, from Tieling, Manchuria, 1907. A black-seeded variety in Pennsylvania and New York."

32910. PHYTELEPHAS AEQUITORIALIS Spruce. **Ivory-nut palm.**

From Guayaquil, Ecuador. Presented by Mr. Herman R. Dietrich, American consul general. Received March 1, 1912.

Distribution.—An erect palm, sometimes 20 feet high, found on the plains in the vicinity of Guayaquil and extending up the valleys in the Andes to an elevation of 5,000 feet, especially toward Mount Chimborazo, in Ecuador.

32911 to 32913.

From Lawang, Java. Presented by Mr. M. Buysman. Received February 26, 1912.

32911 to 32913—Continued.

Seeds of the following:

32911. AESCULUS TURBINATA Blume.

Distribution.—A tree found on wooded mountain slopes in the provinces of Kiangsu and Chekiang in China and in the islands of Japan.

32912. PTEROCARYA SORBIFOLIA Sieb. and Zucc.

Distribution.—Wooded mountain slopes of Japan.

32913. RANDIA FORMOSA (Jacq.) Schum.

Distribution.—The countries in the northern part of South America, including Guiana, Colombia, Venezuela, and Peru, and the islands of the Caribbean Sea.

32914 to 32916.

Presented by Mr. Walter Fischer, Campo de Cultura Experimental Paraense, Para, Brazil. Received February 27, 1912.

Seeds of the following; quoted notes by Mr. Fischer:

32914. SAPINDUS sp.

"A species of Sapindus, which I found along a roadside about 6 miles from Santarem. The tree grows to a height of 30 to 40 feet and is found along the borders of clearings. The natives were familiar with the saponifying property of the seeds, but as far as I could learn made no use of them. Santarem is located at the north of the Tapajos on the Amazon, about 500 miles from Para."

32915 and 32916. PITHECOLOBIUM UNGUIS-CATI (L.) Benth.

"Two varieties of seeds that I found and collected in Barbados. The local name is 'bread and cheese.' The seeds are from a very attractive ornamental small tree much used as a border shrub and as a hedge plant for which latter purpose it is well adapted. It has a clean foliage of compound leaves, each leaf consisting of a twin pair of obovate leaflets. What makes the plant most conspicuous and attractive is its heavy burden of dense panicles of pods, open and twisted when ripe and showing the shiny-black small seeds to each of which is attached a red or a white arillus. This hedge plant would be excellently adapted to southern Florida where it may already exist."

32915. "Seed with white aril."

32916. "Seed with red aril."

Distribution.—Sandy soil in southern Florida and in the West Indies and the tropical part of South America.

32917 to 32973.

From La Mortola, Ventimiglia, Italy. Presented by Prof. Alwin Berger, curator of the garden. Received March 2, 1912.

Seeds of the following:

32917. AMPELOPSIS HUMULIFOLIA Bunge.

Distribution.—A vine found in the province of Chihli, Shingking, Kansu, and Hupeh in China, and in Chosen (Korea), Formosa, and in Japan.

32918. ARGANIA SPINOSA (L.) Skeels. **Argan.**

See Nos. 3490 and 28783 for previous introductions.

32919. ARISTOTELIA MACQUI L'Heritier. **Maqui.**

See No. 26306 for description.

32920. BERBERIS GLOBOSA Benth. **Barberry.**

See No. 31245 for previous introduction.

32917 to 32973—Continued.

32921. BERBERIS GUIMPELI Koch and Bouche. **Barberry.**

32922. BERBERIS JAPONICA BEALEI (Fortune) Skeels. **Barberry.**

See Nos. 31244 and 32700 for previous introductions.

32923. BERBERIS NAPAULENSIS (DC.) Spreng. **Barberry.**

See No. 28839 for description.

32924. CAJUPUTI CUTICULARIS (Labill.) Skeels.

(*Melaleuca cuticularis* Labill. 1806, Novae Hollandiae Plantarum Specimen, vol. 2, p. 30, pl. 171.)

32925. CAJUPUTI ERICIFOLIA (Smith) Lyons. **Bottle-brush tea-tree.**

See No. 30793 for previous introduction.

32926. CAJUPUTI HYPERICIFOLIA (Salisb.) Skeels. **Hillock tree.**

See No. 30761 for previous introduction.

32927. CAJUPUTI PUBESCENS (Schauer) Skeels.

See No. 30795 for previous introduction.

32928. CAJUPUTI PULCHELLA (R. Br.) Skeels.

(*Melaleuca pulchella* R. Br. 1812, Aiton Hortus Kewensis, ed. 2, vol. 4, p. 414.)

32929. CAJUPUTI WILSONI (Mueller) Skeels. **Wilson's tea-tree.**

(*Melaleuca wilsoni* Mueller 1861, Fragmenta Phytographiae Australiae, vol. 2, p. 124, pl. 15.)

The reason for the use of the generic name Cajuputi in place of Melaleuca is explained in Inventory No. 27 (Bulletin 242, Bureau of Plant Industry, U. S. Dept. of Agriculture, 1912, p. 39.) *Cajuputi cuticularis* is a tall shrub or small tree and *C. pulchella* is a low, spreading shrub, both growing along streams in West Australia. *C. wilsoni* is a tall shrub found in Victoria and South Australia.

32930. CELTIS AUDIBERTIANA Spach. **Hackberry.**

This species is generally referred to *C. occidentalis* L. As the latter is now considered to cover several distinct forms it is thought best to retain the present name until the material can be grown.

32931. COLUTEA CILICICA Boiss. and Bal.

Distribution.—A shrub found on the coast and on the slopes of the mountains in the southern part of Asia Minor from Smyrna to Cilicia.

32932. COTONEASTER AFFINIS Lindl.

See No. 28207 for previous introduction.

32933. COTONEASTER BUXIFOLIA Wall.

Distribution.—On the slopes of the Nilgiri Hills in the southern part of India.

32934. COTONEASTER MICROPHYLLA Wall.

Distribution.—A shrub found on the temperate slopes of the Himalayas at an altitude of 4,000 to 8,000 feet, between Kashmir and Bhutan in northern India.

32935. COTONEASTER MICROPHYLLA THYMIFOLIA (Loud.) Koehne.

Distribution.—A low shrub found on the alpine slopes of the Himalayas from Kashmir to Sikkim in northern India.

32936. COTONEASTER PANNOSA Franchet.

Distribution.—A low shrub found on limestone ledges of the mountains in the province of Yunnan in China at an elevation of 10,000 feet.

32917 to 32973—Continued.

32937. COTONEASTER ROTUNDIFOLIA Wall.

See No. 28211 for previous introduction.

32938. COTONEASTER SIMONSI Baker.

A half-hardy shrub. See No. 28212 for distribution of this species.

32939. COTYLEDON BARBEYI Schweinf.

Distribution.—An exquisite plant for carpet bedding found on the slopes of the mountains in the province of Yemen in western Arabia.

32940. ELAEAGNUS LATIFOLIA L.

Distribution.—From the subtropical and temperate slopes of the Himalayas southward to Ceylon in India, and throughout the Malay Archipelago.

32941. × ELAEAGNUS PUNGENS REFLEXA (M. and D.) Rehd.

A spreading shrub, considered to be a hybrid between *Elaeagnus pungens* and *E. glabra.*

32942. FRAXINUS ORNUS L. **Ash.**

Distribution.—A small tree found in southern Europe and western Asia, extending from Spain through southern France and Germany, Italy, and Greece to Asia Minor and Syria.

32943. GERANIUM PALMATUM Cav.

Distribution.—A herbaceous perennial found in the Canary Islands.

32944. GREVILLEA THELEMANNIANA Huegel.

Distribution.—A spreading shrub with racemes of pink flowers, found in the valley of the Swan River in West Australia.

32945. ILEX CORNUTA Lindl. and Paxton. **Chinese holly.**

See No. 22979 for description of this species.

32946. PODACHAENIUM EMINENS (Lag.) Baill.

See No. 28850 for description of this species.

32947. RHUS EXCISA PALLENS (Eckl. and Zeyh.) Sond.

Distribution.—A shrub found in the Uitenhage and Albany districts of South Africa.

32948. ROSA AGRESTIS Savi. **Rose.**

Distribution.—Western and southern Europe, extending from Sweden and Denmark southward through France to Italy, and in Morocco, Tunis, and Algiers.

32949. ROSA CYMOSA Trattinick. **Rose.**

Distribution.—The provinces of Kiangsu, Chekiang, Kiangsi, Fokien, Hupeh, Kwangtung, and Hongkong in China.

32950. ROSA DAMASCENA Miller. **Rose.**

32951. ROSA DAMASCENA TRIGINTIPETALA (Dieck) Koehne.

Distribution.—This is the form of *Rosa damascena* which is cultivated in Roumelia for the production of rose oil.

32952. ROSA FENDLERI Crepin. **Rose.**

32953 to 32955. ROSA INDICA L. **Rose.**

32953. Variety *borbonica.*

32954. Variety *major.*

32955. Variety *semperflorens fl. simpl.*

32917 to 32973—Continued.

32956. ROSA LESCHENAULTIANA (Red. and Thorry) Wight and Arn. **Rose.**

Distribution.—The slopes of the Nilgiri and Pulney hills in the western peninsula of India.

32957. ROSA LYELLII Lindl. **Rose.**

Distribution.—The province of Nepal in northern India; considered by some authorities to be a climbing form of *Rosa involucrata* Roxb.

32958. ROSA OXYODON Boiss. **Rose.**

Distribution.—The slopes of the eastern part of the Caucasus Mountains at an elevation of 6,000 feet.

32959. ROSA PHOENICIA Boiss. **Rose.**

Distribution.—Along the shores of the Mediterranean in Asia Minor and Syria.

32960. ROSA SEMPERVIRENS L. **Rose.**

Distribution.—Southern Europe, extending from Portugal and Spain eastward through southern France, Italy, and Greece to Asia Minor, and in northern Africa.

92961. ROSA SERAFINII Viv. **Rose.**

Distribution.—The islands of Corsica, Sardinia, and Sicily, and in Italy.

32962. ROSA SOULIEANA Crep. **Rose.**

See No. 21747 for description.

32963. ROSA SPINOSISSIMA L. **Rose.**

Distribution.—Central Europe and Asia, extending from the British Isles and northern Spain eastward through Europe and Asia to Manchuria and northwestern China.

32964. ROSA TOMENTELLA ALLIONII (Burnat) Keller. **Rose.**

Distribution.—The slopes of the Maritime Alps between France and Italy.

32965. ROSA VIRGINIANA Miller. **Rose.**

See No. 28244 for previous introduction.

32966. ROSA XANTHINA Lindl. **Rose.**

See Nos. 28978 and 21620 for description.

32967. ROSA sp. **Rose.**

32968. TECOMA PANDORANA (Andrews) Skeels.

(*Bignonia pandorana* Andrews 1800, Botanists' Repository, vol. 2, pl. 86.)

The seeds of this Australian trumpet flower were received under the name *Tecoma australis*, which was published in 1810 by R. Brown (Prodromus, p. 471). Brown cited "*Bignonia pandorea* Andr." Andrews spelled the specific name "*pandorana*," and this name, being earlier, is here restored.

Distribution.—Found in North Australia, Queensland, New South Wales, and Victoria, in Australia.

32969. PODRANEA RICASOLIANA (Tanf.) Sprague.

Distribution.—A climbing shrub found in thickets at the mouths of streams in the eastern part of Cape Colony.

32970. × TRITOMA CORALLINA Hort.

A hybrid between *Tritoma macowani* (Baker) Skeels (*Kniphofia macowani* Baker, 1874, The Journal of Botany, vol. 12, p. 3), and *T. uvaria* (L.) Ker.

32917 to 32973—Continued.

32971. TRITOMA NATALENSIS (Baker) Skeels.

(*Kniphofia natalensis* Baker, 1885, The Journal of Botany, vol. 23, p. 278.)

32972. TRITOMA NELSONI (Masters) Skeels.

(*Kniphofia nelsoni* Masters, 1892, Gardeners' Chronicle, ser. 3, vol. 11, p. 554, fig. 83.)

The necessity for using the generic name Tritoma for the plants usually referred to the genus Kniphofia is explained in Inventory No. 24 (Bulletin 223, U. S. Department of Agriculture, Bureau of Plant Industry, 1911, p. 25).

These species are all natives of South Africa, *Tritoma macowani* being found in the central and coast regions, *T. natalensis* in Natal and *T. nelsoni* in the Orange Free State.

32973. TRITOMA TUCKII (Baker) Skeels.

See No. 28526 for distribution of this species.

32975 to 33006.

From Tiflis, Caucasus, Russia. Presented by Mr. D. A. Rolloff, Director, Botanic Garden. Received March 2, 1912.

Seeds of each of the following:

32975. ACER TRAUTVETTERI Medw. **Maple.**

See No. 30531 for distribution of this species.

32976. ASTRAGALUS BUNGEANUS Boiss.

Distribution.—Stony mountain slopes in the Caucasus region of southeastern Russia.

32977. ASTRAGALUS sp.

This was received under the name *Astragalus cyri* Fomin, but as yet the place of publication of this name has not been found.

32978. ASTRAGALUS KADSHORENSIS Bunge.

Distribution.—Slopes of the mountains in the Tiflis region of southeastern Russia.

32979. ASTRAGALUS MICROCEPHALUS Willd.

Distribution.—On the slopes of the mountains in the northeastern part of Asia Minor and the southeastern part of Russia.

32980. ASTRAGALUS URANIOLIMNEUS Boiss.

Distribution.—On the mountains in Armenia.

32981. CELTIS CAUCASICA Willd.

See No. 30575 for previous introduction.

32982. CORNUS AUSTRALIS Meyer.

See No. 30570 for distribution of this species.

32983. DAPHNE OLEOIDES Schreber.

Distribution.—A shrub found on the subalpine mountain slopes in southern Europe, extending from Spain through Italy, Greece, and Turkey to Asia Minor and Syria, and in Algeria.

32984. ELAEAGNUS ANGUSTIFOLIA L. **Oleaster.**

See No. 31822 for description.

32975 to 33006—Continued.

32985. HEDERA COLCHICA Koch.

Distribution.—The Trans-Caucasian region of southeastern Russia, and in northern Persia.

32986. IRIS CAUCASICA Hoffm. **Iris.**

Distribution.—A pale or bright yellow-flowered iris, found in the Caucasus region of southeastern Russia and eastward through Asia Minor and Persia to Turkestan; ascending to an elevation of 6,000 feet.

32987. IRIS RETICULATA Bieb. **Iris.**

Flowers bright purple, very fragrant.

Distribution.—Same as No. 32986.

32988. JUNIPERUS EXCELSA Willd. **Juniper.**

See No. 26688 for description.

32989. JUNIPERUS FOETIDISSIMA Willd **Juniper.**

See No. 29246 for description.

32990. JUNIPERUS OXYCEDRUS L. **Juniper.**

See No. 26884 for description.

32991. LALLEMANTIA IBERICA (Bieb.) Fisch. and Meyer.

See No. 29932 for description.

32992. LATHYRUS ROSEUS Steven.

A hardy herbaceous climber with beautiful rose-colored flowers.

Distribution.—Wooded mountain slopes in the Trans-Causasian region of Russia and in Asia Minor.

32993. LATHYRUS ROTUNDIFOLIUS Willd. **Persian everlasting pea.**

"A low-growing winged species with large, rose-pink flowers is of easy culture requiring a cool, shady, and sheltered position. Adapted to stony banks." (*Bailey's Cyclopedia of American Horticulture, p. 888.*)

Distribution.—Southeastern Russia, Asia Minor, and the northern part of Persia.

32994. LAUROCERASUS OFFICINALIS Roem. **Laurel cherry.**

See Nos. 27360 and 27684 for description.

32995. LONICERA BRACTEOLARIS Boiss. and Buhse. **Honeysuckle.**

Distribution.—A shrub found in the vicinity of Tassakend in the province of Karabagh in the Caucasus region of Russia.

32996. PAEONIA MLOKOSEWITSCHI Lomakin. **Peony.**

See No. 27674 for description.

32997. PAEONIA WITTMANNIANA Hartwiss. **Peony.**

Distribution.—Subalpine slopes of the mountains in the northern part of Persia.

32998. PALIURUS SPINA-CHRISTI Miller. **Christ's-thorn.**

See No. 26879 for description.

32999. PISTACIA MUTICA Fisch. and Meyer.

See No. 9474 for description.

Distribution.—On the lower slopes of the mountains in Asia Minor, Persia, and western Afghanistan.

32975 to 33006—Continued.

33000. POPULUS TREMULA L. **Poplar.**

See No. 29098 for description.

33001. PYRUS NIVALIS ELAEAGRIFOLIA (Pall.) Schneider. **Wild pear.**

See No. 27670 for description.

33002. RHAMNUS PALLASII Fischer.

See No. 27669 for description.

33003. SOLANUM NIGRUM L. **Nightshade.**

33004. SOLANUM NIGRUM L. **Nightshade.**

Variety *chlorocarpon*.

33005. TRIFOLIUM ANGUSTIFOLIUM L. **Clover.**

See Nos. 7753 and 9750 for previous introductions.

Distribution.—The countries bordering on the Mediterranean from Spain to Syria, and in northern Africa.

33006. VICIA PERSICA Boiss.

Distribution.—Alpine regions of Armenia and northwestern Persia.

33007. HIBISCUS MUTABILIS L.

From Kiaying chow, China. Presented by Mr. George Campbell. Received March 5, 1912.

"This is a showy plant with blossoms something like a hollyhock; with me it grew to be about 3 feet high by blossoming time, and had a profusion of great double flowers with five centers; hence called *ng-.im-to*, or five-heart-blossom, *Fu-yung*. More than half of them blasted and dropped off, but those left fairly weighed down the little tree. It blossomed November 2. This double kind is rather rare, but is propagated by cuttings." (*Campbell.*)

Distribution.—Common in China, except in the colder parts, both wild and cultivated; also cultivated in most warm countries.

33008 to 33068.

From Kew, England. Presented by Dr. David Prain, Director, Royal Botanic Garden. Received February 3, 1912.

Seeds of the following:

33008 to 33013. Herbaceous plants.

33008. CHRYSANTHEMUM CINERARIAEFOLIUM (Trev.) Vis. **Pyrethrum.**

33009. HYPERICUM FRAGILE Heldr. and Sart.

Distribution.—A very low-growing Hypericum found in the fissures of the rocky slopes of the Delphi Mountains in the vicinity of Steni, in eastern Greece.

33010. MECONOPSIS ACULEATA Royle.

Distribution.—A herbaceous perennial with blue-purple flowers found on the Himalayas from Kashmir to Kumaon, in northwestern India.

33011. MECONOPSIS CAMBRICA Viguier. **Welsh-poppy.**

Distribution.—A herbaceous perennial with pale-yellow flowers found in rocky places in the woods in western Europe from the British Isles southward to Spain.

33008 to 33068—Continued.

33008 to 33013—Continued.

33012. MECONOPSIS HETEROPHYLLA Benth.

Distribution.—From the San Francisco Bay region southward to southern California.

33013. MECONOPSIS RACEMOSA Maxim.

Distribution.—A herbaceous perennial found in the province of Kansu, in the northwestern part of China.

33014 to 33068. Trees and shrubs.

33014. ACER NIKOENSE (Miq.) Maxim. **Maple.**

A very distinct species; leaves turn brilliant scarlet in autumn.

Distribution.—The wooded subalpine slopes of the mountains in the islands of Tozando and Kiushu, in Japan.

33015. BERBERIS ACUMINATA Franch. **Barberry.**

See Nos. 22545 and 29957 for previous introductions.

33016. BERBERIS ANGULOSA Wall. **Barberry.**

See No. 27115 for previous introduction.

33017. BERBERIS ARISTATA DC. **Barberry.**

See Nos. 27116 and 32789 for previous introductions.

33018. BERBERIS CONCINNA Hook. f. **Barberry.**

See No. 27117 for previous introduction.

33019. BERBERIS DICTYOPHYLLA Franch. **Barberry.**

See Nos. 27118, 27400, and 27401 for previous introductions.

33020. BERBERIS HOOKERII Lemaire. **Barberry.**

Distribution.—Supposed to be a native of the slopes of the eastern Himalayas, in northern India.

33021. BERBERIS ORTHOBOTRYS Bienert. **Barberry.**

Distribution.—In the province of Kashmir and in northern India, in Afghanistan, and in northeastern Persia.

33022. BERBERIS PARVIFOLIA Sprague. **Barberry.**

See No. 29958 for previous introduction.

33023. BERBERIS UMBELLATA Wall. **Barberry.**

See No. 27121 for previous introduction.

33024. BERBERIS sp. **Barberry.**

This was received under the name *Berberis vilmoriniana*, but as yet the place of publication of this name has not been found.

33025. BERBERIS YUNNANENSIS Franch. **Barberry.**

Distribution.—On the slopes of the mountains at an altitude of 10,000 feet in the Province of Yunnan, in southwestern China.

33026. CLEMATIS MONTANA Hamilton. **Clematis.**

Variety *rubens*.

33027. COLUTEA ARBORESCENS L.

See Nos. 1570 and 30786 for previous introductions.

33028. COLUTEA sp.

This was received under the name *Colutea bullata*, but as yet the place of publication of this name has not been found.

33008 to 33068—Continued.

33014 to 33068—Continued.

33029. COLUTEA ISTRIA Miller.

Distribution.—A tall shrub found in the mountains of Syria and southward through Arabia to Abyssinia.

33030. × COLUTEA MEDIA Willd.

Considered to be a hybrid between *Colutea arborescens* L. and *C. orientalis* Miller.

33031. COTONEASTER AFFINIS Lindl.

See Nos. 28207 and 32932 for previous introductions.

33032. COTONEASTER AFFINIS BACILLARIS (Wall.) Schneider.

See No. 28208 for previous introduction.

33033. COTONEASTER APPLANATA Arranger.

See No. 29963 for previous introduction.

33034. COTONEASTER BULLATA Bois.

See No. 29964 for previous introduction.

33035. COTONEASTER BUXIFOLIA Wall.

See S. P. I. No. 32933 for distribution.

Distribution.—On the slopes of the Nilgiri Hills in the southern part of India.

33036. COTONEASTER FRANCHETI Bois.

Distribution.—On the mountain slopes in Tibet and in the province of Yunnan in southwestern China.

33037. COTONEASTER FRIGIDA Wall.

Distribution.—A tall shrub or small tree found on the slopes of the Himalayas at an altitude of 7,000 to 10,000 feet in the provinces of Nepal and Sikkim in northern India.

33038. COTONEASTER HORIZONTALIS Decaisne.

See Nos. 1595 and 28209 for previous introductions.

33039. COTONEASTER INTEGERRIMA Medic.

See Nos. 22695 and 29966 for previous introductions.

33040. COTONEASTER LINDLEYI Steud.

Distribution.—On the slopes of the Himalayas in Kashmir, India, and in Afghanistan.

33041. COTONEASTER MICROPHYLLA GLACIALIS Hook.

33042. COTONEASTER MICROPHYLLA THYMIFOLIA (Loud.) Koehne.

See No. 32935 for previous introduction.

Distribution.—A low shrub found on the alpine slopes of the Himalayas from Kashmir to Sikkim in northern India.

33043. COTONEASTER PANNOSA Franchet.

See No. 32936 for previous introduction.

33044. COTONEASTER RACEMIFLORA NUMMULARIA (Fisch. and Mey.) Dipp.

33045. COTONEASTER ROTUNDIFOLIA Wall.

See Nos. 28211 and 32937 for previous introductions.

33008 to 33068—Continued.

33014 to 33068—Continued.

33046. COTONEASTER SIMONSI Baker.

See Nos. 28212 and 32938 for previous introductions.

33047. COTONEASTER sp.

(Forrest, 5545, China.)

33048. ELAEAGNUS MULTIFLORA Thunb. **Oleaster.**

See No. 2670 for description.

Distribution.—Throughout Japan, where several varieties are cultivated for their fruit, and in the provinces of Kiangsi and Hupeh in China.

33049. ENKIANTHUS CAMPANULATUS (Miq.) Nichols.

Distribution.—On the subalpine slopes of the mountains in the islands of Hondu and Hokushu in Japan.

33050. EXOCHORDA ALBERTI Regel.

A shrub found in Bokhara in central Asia.

See No. 1767 for previous introduction.

33051. LIGUSTRUM sp. **Privet.**

(Forrest, 5984, China.)

33052. LONICERA HENRYI Hemsl. **Honeysuckle.**

Distribution.—A climbing shrub found in the Patung district of the province of Hupeh in China.

33053. LONICERA MAACKII (Rupr.) Herd. **Honeysuckle.**

See No. 22548 for previous introduction.

Distribution.—The provinces of Shingking, Kiangsi, Kiangsu, and Hupeh in China, and in Manchuria and northern Japan.

33054. LONICERA PERICLYMENUM L. **Honeysuckle.**
Variety *belgica*.

33055. LONICERA XYLOSTEUM L. **Honeysuckle.**

Distribution.—Throughout Europe and northern Asia, extending southward to the Caucasus and the valley of the Amur.

33056. MALUS MEDWIETZKYANA Dieck.

See Nos. 27123 and 30250 for previous introductions.

33057. MALUS SIKKIMENSIS (Hook. f.) Koehne.

See No. 27127 for previous introduction.

33058. RHAMNUS sp.

33059. RHAMNUS FRANGULA L. **Alder buckthorn.**

See Nos. 2179, 30248, and 30573 for previous introductions.

33060. RHODODENDRON CAUCASICUM Pallas.

Distribution.—Alpine summits of the Caucasus Mountains in southeastern Russia.

33061. SOPHORA DAVIDI (Franchet) Skeels.

(*Sophora viciifolia* Hance 1881, Journal of Botany, vol. 19, p. 209; not *S. viciaefolia* Salisbury 1796, Prodromus, p. 328.)

(*Sophora moorcroftiana davidi* Franchet 1883, Nouvelles Archives du Museum D'Histoire Naturelle, Paris, ser. 2, vol. 5, p. 253, pl. 14.

33008 to 33068—Continued.

33014 to 33068—Continued.

The seeds of this spreading leguminous Chinese shrub were received under the name *Sophora viciifolia*, which was published by Hance in 1881. However, in 1796 Salisbury had published the name *Sophora viciaefolia* for the plant now generally known as *Virgilia capensis*. As it is not allowable to use the same specific name more than once in the same genus, *Sophora viciifolia* Hance is rejected as a homonym. The next name applied to this species was *Sophora moorcroftiana davidi* Franchet; and as it is considered to be distinct from the Indian plant, *S. moorcroftiana*, it is here raised to specific rank.

Sophora davidi was found by Hance in the vicinity of Ichang, in the province of Hupeh, and is also known to grow in the province of Shensi, in China.

33062. VIBURNUM COTINIFOLIUM D. Don.

Distribution.—A spreading shrub, often 10 feet high, growing at an altitude of 6,000 to 11,000 feet on the slopes of the Himalayas between Kashmir and Kumaon in the northern part of India.

33063. VIBURNUM PHLEBOTRICHUM Sieb. and Zucc.

Distribution.—Wooded mountain slopes in the islands of Hondu and Kiushu in Japan.

33064. VIBURNUM PUBESCENS Pursh.

33065. VIBURNUM RHYTIDOPHYLLUM Hemsl.

Distribution.—A shrub with large, coarsely wrinkled leaves found in the Patung district of the province of Hupeh, China.

33066. VIBURNUM SARGENTI Koehne.

See No. 30847 for previous introduction.

33067. VIBURNUM WRIGHTII Miq.

Distribution.—On the hillsides and mountain slopes of the Hakodate peninsula in the island of Hokushu in Japan.

33068. × PHYSALIS BUNYARDI Hort.

"This is a cross between *Physalis francheti* and *P. alkekengi*. The colored calyces are much less in size than those of *P. francheti*, and in general appearance the hybrid is about intermediate between the parents. When the growths are cut and the calyces fully colored, the leaves are still in a fresh condition, and for this reason as well as for the less stiff character of the shoots as compared with *P. francheti*, the hybrid may be more valued for use in decorative purposes." (*Gardeners' Chronicle*, vol. 38, 1905, p. 315, fig. 123.)

33069 and 33070. DIOSPYROS KAKI L. f. Persimmon.

From Wakamatsu, Japan. Presented by Rev. H. Loomis, American Bible Society, Yokohama. Received March 7, 1912.

Cuttings of the following:

33069. *Hassaku.*

33070. *Mishiradzu.* "I have grown this variety in my garden for several years and regard it as one of the very best. It is a prolific bearer (the name signifies that the tree takes no thought of itself), it is rich in flavor, very sweet, and not astringent. In size and appearance it resembles *Gema*." (*Loomis.*)

33071. FICUS MACROPHYLLA Desf. **Moreton Bay fig.**

From Sydney, New South Wales, Australia. Presented by Prof. J. H. Maiden, Director and Government Botanist, Royal Botanic Garden. Received March 7, 1912.

"This only grows in the well-watered coastal district, and experiments with the view to introduce it into drier localities have almost invariably resulted in failure." (*Maiden.*)

See No. 3494 for previous introduction.

Distribution.—A large tree found near streams in Queensland and New South Wales in Australia.

33073. HEDYSARUM CORONARIUM L. **Sulla.**

From Jerez de la Frontera, Spain. Presented by Mr. Percival Gassett, American consul. Received March 7 and 19, 1912.

"The sulla plant, or Spanish wild clover, is found in Spain only in southern Andalusia, province of Cadiz, where it grows wild and with most luxuriance in abandoned vineyards. The Spaniards are well aware of the great value of this plant as a rich forage for stock, especially for horses, to whom it is said to give endurance; and not enough sulla can be produced in Jerez to supply the demand, for, after the stock raisers and farmers who grow it have supplied themselves, any surplus is eagerly purchased by the military officers in charge of the Jerez Deposito Semental or depot for breeding horses for the Spanish army. So far, all efforts to make it grow in other parts of Spain, even at Seville, 90 miles from Jerez, have been unsuccessful.

"Practically, then, sulla needs the same climate and soil that produce the famous Jerez, or sherry, grape, unique of its kind in the world. The climate should be sunny, hot, and dry in the summer, with plenty of rain in the fall, and a low temperature that does not reach freezing, although occasional frosts during the winter nights are not unknown in Jerez. When there has been plenty of rain in the fall there has usually been an abundant crop of sulla the next spring.

"Now as to soil. Jerez has three soils, each of which produces a distinct type of wine; the best is known as 'albariza' (lime), the second best as 'barro' (clay), and the least desirable as 'arena' (sand). As a general rule the soil of Jerez vineyards is of a porous character, light, and of a grayish color, the composition of which, according to an analysis made in 1898 in the laboratory of the London Lancet is as follows:

	Per cent.
Calcium carbonate	29.12
Oxide of iron	4.08
Sand, etc	45.80
Soluble salts	.50
Moisture	16.70
Loss on ignition	3.80
	100.00

"Practically a third part of this soil consists of carbonate of lime and if the fact of producing the nearest imitation of Jerez wine is any indication, it would seem as if sulla might grow in parts of California.

"Although the general belief, which seems to be supported by all other unsuccessful experiments, is that this soil is indispensable for the successful growth of sulla, yet the writer has within a month or so seen an entire field of sulla, a foot or more in height, growing in ordinary black soil, without irrigation, at the Jerez Agricultural Experiment Station, La Granja.

"In planting, the unhusked seed was immersed for 5 minutes in boiling water, or the husked seed in water at 140° F. The seed was sown not later than the next day after this treatment. A good plan is to sow the sulla with wheat or barley and after the latter has been harvested it will come up the following autumn. It is said that if the sulla fails to grow one year and is not disturbed it will come up the year after; under favorable conditions it should grow as high as 3 or 4 feet." (*Extract from report of Mr. Gassett.*)

Distribution.—The countries bordering on the Mediterranean from Spain to Asia Minor and in northern Africa.

33074 to 33076. VITIS VINIFERA L. **Grape.**

From Bhamdun, located on the western slope of Mount Lebanon, Syria. Presented by Mr. Alfred Ely Day, Syrian Protestant College, Beirut, Syria. Received February 26, 1912.

Cuttings of the following; quoted notes by Mr. Day:

33074. "*Kâsûfi-dakar.* White berry, size and shape of an olive. Loose cluster. Ripens late and may be kept for winter eating."

33075. "*Aswad-kari.* Berries oval, of moderate size, black streaked with red, tough skin, firm pulp, ripening late, but not so late as *Shatawi* (S. P. I. No. 33113.)"

33076. "*Khudud-ul-banat* (maiden's cheeks). Much like *Miksâsi* (S. P. I. No. 33115), but red in color."

33077 to 33079.

From Siberia. Collected by Mr. Frank N. Meyer, agricultural explorer, Bureau of Plant Industry. Received January 6, 1912. Numbered March 10, 1912.

Seeds of the following; quoted notes by Mr. Meyer:

33077. LARIX SIBIRICA Ledeb. **Siberian larch.**

From Marka Kul, Altai Mountains, southern Siberia. Altitude 6,000 feet.

"(June 8, 1911.) Large cones."

See No. 2175 for previous introductions.

33078. PICEA OBOVATA Ledeb. **Spruce.**

From Marka Kul, Altai Mountains, southern Siberia. Altitude 5,000 to 7,000 feet.

"(June 7, 8, 9, 1911.) Cones from different localities around Lake Marka Kul."

See No. 20319 for previous introduction.

33079. PINUS CEMBRA L. **Pine.**

From Omsk, Siberia.

"(August 5, 1911.) Cones brought in from the Ural Mountains."

See Nos. 20317, 20764, and 20777 for previous introductions.

33080. GOSSYPIUM BARBADENSE L. **Cotton.**

From Cairo, Egypt. Presented by Mr. George J. Salem. Received March 8, 1912.

"*Sekallaridis.* This variety has become somewhat popular in the provinces of lower Egypt, and has been grown during the last two years extensively in those provinces. It resembles much the *Jannowitch*, though its fiber is finer and its color more yellowish." (*Salem.*)

33081 to 33085. MECONOPSIS spp.

From Glasnevin, Dublin, Ireland. Presented by Mr. F. W. Moore, keeper, Royal Botanic Gardens. Received March 9, 1912.

Seeds of the following:

33081. MECONOPSIS CAMBRICA Viguier.

See No. 33011 for previous introduction.

33082. MECONOPSIS CAMBRICA Viguier.

Flore pleno.

33083. MECONOPSIS INTEGRIFOLIA (Maxim.) Franch.

See Nos. 13340 and 31269 for previous introduction.

33084. MECONOPSIS PANICULATA (Don) Prain.

Distribution.—A herbaceous perennial with yellow flowers, found on the slopes of the Himalayas in the provinces of Nepal, Sikkim, and Bhutan in northern India.

33085. MECONOPSIS WALLICHII Hooker.

See No. 25070 for previous introduction.

33086 to 33088. DIOSPYROS KAKI L. f. **Persimmon.**

From Okitsu, Japan. Presented by Mr. T. Tanikawa, in charge, Government Horticultural Experiment Station. Received March 9, 1912.

Cuttings of the following; quoted notes by Mr. Tanikawa:

33086. "*Zenjimaru.* A sweet variety, with male, female, and complete flowers in the same stock."

33087. "*Fuji.* One of the best astringent varieties in our country."

33088. "*Fuyu.* One of the best sweet varieties in this country."

33089 and 33090. GOSSYPIUM spp. **Cotton.**

From Abyssinia. Presented by Mr. Guy R. Love, American vice consul general, Addis Abeba. Received March 9, 1912.

Seeds of the following; quoted notes by Mr. Love:

33089. "*Gojamie.* From Gojam, south of Lake Tsana."

33090. "*Gondarie.* From Gondar, north of Lake Tsana."

"The cotton raised in the Lake Tsana district is of a much superior quality, being of longer fiber and lighter in color."

33091. MEDICAGO SATIVA L. **Alfalfa.**

From Bordj bou Arreridj, Algeria. Presented by Mr. F. Couston, agricultural engineer. Received November 8, 1911. Numbered March 11, 1912.

"(Blue flowers.) Spontaneous on the high plateaus at Bordj bou Arreridj; calcareous soils, sometimes very dry." (*Couston.*)

33092. CUCUMIS SATIVUS L. **Cucumber.**

From Yaroslav Province, Russia. Presented by Mr. Joseph A. Rosen, Chief, American Agricultural Bureau of the Governmental Zemstvo of Yekaterinoslav, Russia, at Minneapolis, Minn. Received March 8, 1912.

"Variety *Muromsky.* Originated in the province of Yaroslav, Russia. The earliest variety grown in Russia. Prolific, excellent quality. An open-ground variety, but is frequently grown also under glass." (*Rosen.*)

33093. DAMMARA ALBA Rumph.

From Buitenzorg, Java. Presented by Mr. H. Wigman, Botanic Garden. Received March 9, 1912.

"This beautiful broad-leaved conifer, related to the noted kauri pine of New Zealand, is worthy of trial in Florida and southern California. Its pyramidal, evergreen character makes it particularly suitable for avenue planting." (*David Fairchild.*)

Distribution.—A tall tree belonging to the pine family, found in the islands of the Malay Archipelago.

33094. BELOU MARMELOS (L.) Lyons. **Bael.**

From Peradeniya, Ceylon. Presented by Mr. H. F. Macmillan, Curator, Royal Botanic Garden. Received March 9, 1912.

See No. 24450 for description.

33096. CHIOCOCCA ALBA (L.) Hitchc.

From Palm Beach, Fla. Presented by Mr. J. B. Donnelly, manager, Clarke Estate. Received March 4, 1912.

"This plant when growing in the jungle climbs on trees, but when in the open and cut back a couple of times it makes a nice shrub that is covered with white berries which remain on all winter." (*Donnelly.*)

Distribution.—From the West Indies and Mexico, southward to Brazil and Peru.

33097. FICUS CARICA L. **Caprifig.**

From Chenoua, Algeria. Presented by Dr. L. Trabut, Algiers, Algeria. Received March 12, 1912.

"Very early." (*Trabut.*)

33098. PHASEOLUS CALCARATUS Roxb.

From Cuba. Presented by Mr. Robert L. Luáces, Camaguey, who secured them from Mr. Luis de Megret, editor, El Agricultor Práctico, Guantanamo, Oriente, Cuba. Received March 12, 1912.

"Little Devil, or Mambí, bean. An indigenous legume, found growing wild in the woods of Oriente Province, especially in the valley of Guantanamo. A climbing vine of vigorous growth that covers and smothers the tree over which it grows; for this reason the native country people call it 'Little Devil.' It is also called 'Mambi'[1] because it was discovered as an edible by the Cuban soldiers during the war of 1868–1878.

"It produces its fruits in clusters formed of eight or more small pods, each containing from six to eight beans. It starts to grow in early springtime and matures its fruit in autumn, the plant dying after fruiting. The pods must be gathered ripe. When allowed to dry on the vine they will burst, throwing the seed afar with much violence. The beans are very heavy, considering their small size, and are delicious in taste, selling in the local market at from 8 to 10 cents per pound." (*Megret.*)

33099. STRYCHNOS sp.

From Sombrero Negro, Nicaragua, near Rama. Collected by Mr. Carlos Berger, January, 1912. Received through Mr. W. E. Safford, Bureau of Plant Industry, March 12, 1912.

"Local name, *Madronito.* Roots used as a remedy for snake bites. Pulp of fruit edible." (*Safford.*)

[1] "'Mambí', name given the Cuban soldier during the war of 1868–1878, from man (English) and bi (Latin)." (*Luáces.*)

33100. ADANSONIA DIGITATA L. **Baobab.**

From Cuba. Presented by Mr. Robert L. Luáces, Camaguey, who secured them from Mr. Luis de Megret, editor, El Agricultor Práctico, Guantanamo, Oriente, Cuba. Received March 13, 1912.

"The tree that produces this fruit is native to Africa and was introduced into Oriente Province by the French immigrants from Haiti. The tree, from its gigantic corpulence, leaf, and branch formation, looks very much like the Ceiba. The fruit is long, gourd shaped, of very hard skin, containing, enveloped in a white pasty or starchy stuff, a large number of small seeds. This starchy substance when water is applied to it is somewhat like arrowroot, its taste is subacid, and makes a good refreshing soft drink with sugar and water.

"It receives its name, 'monkey-bread', from the similarity of its seeds to the face of a monkey.

"It can be propagated from seed or from cuttings. This last method is the best, giving quickest results, for it takes some 10 years to grow it from seed. The fruit is hard and will keep for a long time." (*Megret.*)

Seeds.

33101. (Undetermined.)

From Kiayingchow, China. Presented by Mr. George Campbell. Received February 21, 1912.

"This is a rather handsome tree, 25 or 30 feet high; the curious fruits have a pleasant nutty flavor and are ripe about the last of November.

"I saw in a wayside inn up near the Fukien border three great planks of the wood of this *Pit-kiu* or *Kit-kiu* tree. They were 16 to 18 feet long and 18 inches wide and about 3 inches thick. The owner told me he got five such planks out of one tree and sold two of them for $10 apiece. They are in demand for store counters, as they take a good polish and are very hard and dense in texture. But the fruit is the most interesting part of the tree. The fruit looks like the meat of hickory nuts, all crinkly, and is similar in taste. It is thin skinned and the texture is also somewhat like the hickory nut. The whole fruit is eaten, and there is a sort of string that comes from the fruit which you strip off as you eat. The seeds are little and black in color and are by themselves on the end of the fruit. They resemble a bedbug in appearance. This fruit is not of commercial value. The fruit is sold in China, however." (*Campbell.*)

33102 and 33103.

From Nice, Alpes-Maritimes, France. Presented by Dr. A. Robertson Proschowsky, Jardin d'Acclimatation Les Tropiques, Chemin des Grottes Sainte-Helene. Received March 11, 1912.

Seeds of the following; quoted notes by Dr. Proschowsky:

33102. BOCCONIA FRUTESCENS L.

"These seeds are so oily that if they were produced in large enough quantity perhaps some use could be made of them. The plant is very beautiful and forms a large evergreen shrub of striking foliage."

Distribution.—Tropical America, extending northward to the valley of the Cordova in Mexico; also in the West Indies.

33103. GREWIA sp.

"There is only a very little flesh on these fruits, but it is sweet and agreeable. As a beautiful flowering and very drought-resistant shrub it already has some value.

33104. FICUS RUBIGINOSA Desf. **Port Jackson fig.**

From Sydney, New South Wales, Australia. Presented by Prof. J. H. Maiden, Director and Government Botanist, Royal Botanic Garden. Received July 3, 1911. Numbered March 15, 1912.

"This grows in the coast districts, but extends a little more westerly than does *Ficus macrophylla* (S. P. I. No. 33071) and has shown greater adaptability to drier localities than that species." (*Maiden.*)

Seeds.

Distribution.—A tree found in the valleys of streams in New South Wales, Australia.

33105. MEIBOMIA HETEROCARPA (L.) Kuntze.

From Peradeniya, Ceylon. Presented by Mr. H. F. Macmillan, curator, Royal Botanic Garden. Received March 9, 1912.

33106 to 33110. COLOCASIA sp. **Taro.**

From Hilo, Hawaii. Presented by Mr. F. A. Clowes, Superintendent, Hawaii Substations. Received March 13 and 14, 1912.

Tubers of the following varieties:

33106. *Manapiko.*
33107. *Wehiwa.*
33108. *Elepaio.*
33109. *Kuoho.*
33110. *Lehua.*

33111 to 33118. VITIS VINIFERA L. **Grape.**

From Bhamdun, located on the western slope of Mount Lebanon, Syria. Presented by Mr. Alfred Ely Day, Syrian Protestant College, Beirut, Syria. Received March 15 and 16, 1912.

Cuttings of the following; quoted notes by Mr. Day:

33111. "*Jauzâni.* Large, white, thin-skinned berry, produced in crowded clusters. Sometimes the berries are partly large and partly small, in which case they are called 'hen and chickens.' The leaves are used in cooking, wrapped around small rolls of rice and chopped meat. This is one of the best grapes."

33112. "*Shahmâni.* Large, round, yellowish berry; firm pulp."

33113. "*Shatawi.* Not very sweet, a little larger, has a thicker skin, and ripens later than *Kâsûfi-dakar* (S. P. I. No. 33074). *Shatawi* means belonging to winter."

33114. "*Âsmi.* This vine has short branches; clusters large; berries round and greenish, skin very thin. Much esteemed."

33115. "*Miksâsi.* The most useful grape of Lebanon for eating, wine, raisins, and sirup. Berries are of moderate size, white, with thin skin and soft pulp. Ripens early."

33116. "*Jbâ'i.* Berry black with hard skin, very firm and solid, not very juicy, good for preserving."

33117. "*Zeini.* Long white berries, moderate in size, sweet with a little acridity."

33118. "*Kâsûfi-inti.*[1] Like *Kâsûfi-dakar* [1] (S. P. I. No. 33074), but sweeter, thinner skinned, larger berries and clusters. Ripens after *Miksâsi* (S. P. I. No. 33115), but before *Shatawi* (S. P. I. No. 33113). Called *Kâsûfi* because the berries with their stalklets easily break off from the clusters."

[1] "'Inti' means female, and 'dakar,' male."

33119. AESCHYNOMENE ELAPHROXYLON (Guill. and Perr.) Taubert. **Ambach.**

From Lawang, Java. Presented by Mr. M. Buysman, Botanic Garden. Received March 16, 1912.

"This is a Senegambian plant, much cultivated in several parts of Africa and also in Egypt. The only use is that of the wood, which is light and perhaps might be taken as a surrogate for cork. The stem gets very thick with age, but the height is moderate." (*Buysman.*)

Distribution.—A leguminous, spiny shrub up to 20 feet high, with large orange-colored flowers, growing in or near water on the west coast of Africa in Upper Guinea and Lower Guinea, and from the valley of the White Nile to the Mozambique district on the east coast.

33120. FRAXINUS ORNUS L. **Ash.**

From Germantown, Philadelphia, Pa. Purchased from Mr. Conyers B. Fleu, jr. Received March 18, 1912.

This seed was procured for experimental purposes in the semiarid regions of the United States.

33121 to 33126. ZEA MAYS L. **Corn.**

From Ecuador. Presented by Mr. Edward Harold Pound, Washington, D. C. Received March 16, 1912.

Seeds of the following:

33121 to 33124. From Chillo-Ordoñez, Quito, Ecuador.

33125 and 33126. From Hidalgo hacienda, Tumbaco, near Quito, Ecuador.

33127 to 33132. CARICA PAPAYA L. **Papaya.**

From Buitenzorg, Java. Presented by the Director, Botanic Gardens. Received March 18, 1912.

"Seed of different varieties of papayas, producing fruits of various shape and outline. The quality is good and there is but little difference between them." (*The Director.*)

33135. SALIX FRAGILIS L.
(♂ var. *pendula.*)

From Algeria. Presented by Dr. L. Trabut, Algiers. Received March 19, 1912.

"An Algerian ornamental." (*Trabut.*)

33136. GOSSYPIUM OBTUSIFOLIUM Roxb. **Cotton.**

From Algeria. Presented by Dr. L. Trabut, Algiers. Received March 19, 1912.

"Variety *africanum.* Perennial cultivated in the oasis. The very mediocre cotton is used by the natives to mix with wool. Oasis Insalah, The Djerid." (*Trabut.*)

33137. CHAETOCHLOA COSTATA (Roxb.) Skeels.

From Sibpur, near Calcutta, India. Presented by Maj. A. T. Gage, Superintendent, Royal Botanic Garden. Received March 19, 1912.

See No. 32399 for previous introduction.

33138 to 33179.

From Paris, France. Presented by the Director, Museum of Natural History. Received March 19, 1912.

Seeds of the following:

33138. × ACER BOSCH Spach. **Maple.**

Considered to be a hybrid between *Acer tataricum* L. and *A. pensylvanicum* L.

33139. ALNUS MARITIMA (Marsh.) Muhl. **Alder.**

An ornamental shrub or small tree with handsome, shining foliage, attractive in autumn with its male catkins.

Distribution.—The eastern coast of North America, and in Japan, Chosen (Korea), and Manchuria.

33140. AMPELOPSIS HUMULIFOLIA Bunge.

See No. 32917 for previous introduction.

33141. AMPELOPSIS ORIENTALIS (Lam.) Planchon.

Distribution.—Shady banks in Cilicia, Syria, and Armenia.

33142. ARALIA CACHEMIRICA Decaisne.

See No. 30285 for previous introduction.

33143. ASPARAGUS OFFICINALIS L. **Asparagus.**

Distribution.—The countries at the western end of the Mediterranean from Spain and Italy and the adjacent islands to northern Africa and the Canary Islands.

33144. ASPARAGUS MARITIMUS Miller. **Asparagus.**

Distribution.—Southern Europe, extending from Spain eastward through Italy and Greece to the Caucasus region, and in southwestern Siberia.

33145. ASPARAGUS OFFICINALIS CASPIUS (Schult.) Asch. and Graebn. **Asparagus.**

Distribution.—In the parts of southeastern Russia and northern Persia bordering on the Caspian Sea, and occasionally in the countries along the northern coast of the Mediterranean.

33146. ASPARAGUS OFFICINALIS PROSTRATUS (Dum.) Baker. **Asparagus.**

Distribution.—Considered to be a seashore form of *Asparagus officinalis* L. found on the dunes along the coast of northwestern Europe.

33147. ASPARAGUS TENUIFOLIUS Lam. **Asparagus.**

A hardy shrub bearing very large, red berries.

Distribution.—The southern part of Europe, extending from France through Italy, the Balkan Peninsula, and southern Russia to Asia Minor.

33148. ASPARAGUS VERTICILLATUS L. **Asparagus.**

See No. 29121 for previous introduction.

33149. BENINCASA HISPIDA (Thunb.) Cogn.

Variety *macrocarpa*.

33150. BETULA ALBA L. **Cut-leaved weeping birch.**

Variety *dalecarlica*.

33151. BETULA DAVURICA Pallas. **Birch.**

Distribution.—A tree, growing up to 60 feet, found in the valley of the Amur River in eastern Asia.

33138 to 33179—Continued.

33152. Bocconia cordata Willd. **Plume poppy.**

Variety *microcarpa*. A hardy herbaceous perennial.

33153. Celtis audibertiana Spach. **Nettle tree.**

33154. Celtis australis L.

See Nos. 2176 and 19505 for previous introductions.

33155. Cotoneaster horizontalis Decaisne.

See No. 1595 for description.

33156. Cotoneaster integerrima Medic.

See Nos. 29666 and 22695 for previous introductions.

33157. Cotoneaster microphylla Wallich.

See No. 32934 for previous introduction.

33158. Cotoneaster multiflora granatensis (Boiss.) Wenz.

See No. 29969 for previous introduction.

33159. Cotoneaster pannosa Franchet.

See No. 32936 for previous introduction.

33160. Cotoneaster racemiflora nummularia (Fisch. and Mey.) Dipp.

33161. Crataegus ambigua Becker. **Hawthorn.**

See No. 30289 for previous introduction.

33162. Crataegus korolkowi Regel. **Hawthorn.**

See No. 30290 for distribution of this species.

33163. Euonymus radicans carrierei (Vauv.) Nich.

A low shrub with ascending and spreading branches.

33164. Fraxinus pennsylvanica Marshall. **Red ash.**

33165. Gleditsia macracantha Desf.

Distribution.—A tree with large spines, closely related to *G. sinensis* Lam. and only known under cultivation.

33166. Juglans pyriformis Liebm.

Distribution.—On the slopes of the mountains at an elevation of 6,000 feet in the vicinity of Orizaba in southern Mexico.

33167. Malus cerasifera Spach.

Distribution.—A form of *Malus baccata* (L.) Moench probably of hybrid origin; found in Siberia.

33168. Physalis philadelphica Lam.

33169. Pistacia lentiscus L. **Mastic.**

See No. 9426 for description.

33170. Prunus domestica L. **Plum.**

Variety *armenioides*.

33171. Pyrus canescens Spach. **Pear.**

See No. 29973 for previous introduction.

33172. Pyrus communis pyraster L. **Pear.**

Distribution.—A form of the common pear having fruits the size and shape of a cherry, originating in the northeastern part of Persia.

33173. × Pyrus oblongifolia Spach. **Pear.**

Distribution.—Considered to be a hybrid between *Pyrus amygdaliformis* Villars and *P. nivalis* Jacq.

33138 to 33179—Continued.

33174 to 33179. SOLANUM NIGRUM L. **Nightshade.**

33174.

33175. Variety *flavum.*

33176. Variety *guineense.*

33177. Variety *miniatum.*

33178. Variety *oleraceum.*

33179. Variety *villosum.*

33180 and 33181. JUGLANS REGIA L. **Walnut.**

From China. Presented by Mr. Samuel S. Knabenshue, American consul general, Tientsin, China. Received at the Plant Introduction Field Station, Chico, Cal., March, 1912.

Seeds of the following; quoted notes by Mr. Knabenshue:

33180. "This hard-shelled variety grows to the westward of Changli, in this province (Chihli), and Shansi. It appears to grow only in the hill country. The nuts marketed in Tientsin come either from the mountainous region north and west of Peking or from the mountains of Shantung. These nuts came from the western hills at Peking and are very fair samples of the hard-shelled variety."

33181. "This soft-shelled variety was also obtained from Changli. This town lies on the edge of the hill country, and the district around it, so far as can be learned, is the only one producing the soft-shelled nuts. I am unable to obtain any precise information as to the nature of the soil. The hills of the vicinity are evidently of volcanic origin, though extremely ancient in geologic time. The soil, to all appearance, is like that of the Great Plain of China, an alluvial formation, brought down from the loess deposits to the west of Peking. The heavy wind storms to the north, which bring the much-dreaded tornadoes of dust, in the course of centuries must have added materially to the soil of this section of China. The wind brings down from the Gobi Desert a very fine, yellow sand apparently."

33182 and 33183.

From the Philippine Islands. Presented by Mr. O. W. Barrett, Chief, Division of Experiment Stations, Bureau of Agriculture, Manila. Received March 20, 1912.

Seeds of the following; quoted notes by Mr. Barrett:

33182. FICUS sp.

"A small tree, rarely branching. Leaves linear lanceolate, from 1 to 1½ feet in length, dark green, the peculiar fruits being produced in the axils of the leaves. As the plant grows the leaves are shed, with the exception of a number at the top, making the crown of the plant appear not unlike a bird's-nest fern. It should make a very attractive greenhouse subject."

33183. LAGERSTROEMIA SPECIOSA (L.) Pers.

"A small shrubby tree, indigenous to the Philippines, blooming in the spring, when it is one of the most striking plants in the Philippines."

33184. ANNONA CHERIMOLA Miller. **Cherimoya.**

From Los Angeles, Cal. Presented by Mr. Charles F. O'Brien. Received March 21, 1912.

"This cherimoya on my ranch was grown from seed produced by a tree originally brought from Peru by a brother-in-law of a Mr. Miller, who now lives in Hollywood, Cal. The old tree was killed some years ago.

"Mr. Miller's brother-in-law informed him that he found the young tree growing along the bank of a stream in the interior of Peru at a considerable elevation. He stated that the trees grown there grew to large size and produced fruit that sometimes weighed as much as 14 pounds. He also stated that at the time the fruit ripened in that part of Peru it formed the principal article of diet of the native Indians.

"I have seen specimens of the cherimoya of Mexico growing here, but the fruit is not so large as this Peruvian fruit, nor does the tree attain such great size. The foliage is also smaller.

"In handling my tree I have found that it should be vigorously pruned early in the spring. It gives best fruiting results with that treatment.

"These seeds are from the finest fruit borne by the tree last year; it weighed 2 pounds 6 ounces, was perfect in shape, with a very thin skin; meat white and of very fine texture. It was, in fact, the finest specimen I have ever obtained from this tree.

"This particular tree is the finest cherimoya in all southern California, and the finest I have seen anywhere. The fruit is also much superior to that which is now being offered in the market here." (*O'Brien.*)

33185. ACACIA SCORPIOIDES (L.) W. F. Wight.

From Algeria. Presented by Dr. L. Trabut, Algiers. Received March 21, 1912.

"A variety cultivated at Biskra." (*Trabut.*)

33186 to 33188.

From Italy. Presented by Mr. Willy Müller, Nocera Inferiore, Italy. Received March 21, 1912.

Seeds of the following:

33186. AKEBIA LOBATA Decaisne.

See Nos. 24744, 26424 and 30855 for previous introduction.

33187. CUCUMIS MELO L. **Muskmelon.**

From Castellammare.

33188. CUCUMIS MELO L. **Muskmelon.**

From Nocera.

33189. JUGLANS REGIA L. **Walnut.**

From Sorrento, Italy. Procured by Mr. W. B. Fiske, of the Bureau of Entomology, United States Department of Agriculture, stationed at the Gypsy-Moth and Alfalfa-Weevil Laboratory at the R. Scuola Superiore D'Agricoltura, Portici, from Mr. Pasquale D. Luca, head gardener, at the request of Mr. William W. Handley, American consul, Naples, Italy. Received March 22, 1912.

"*Sorrentina.* The trees from which these cuttings were taken were grown by me in ground at Meta di Sorrento belonging to the estate of Dr. Corrado Buggiero. The shoots were all from the same variety and were taken from two trees. The *Sorrentina* is a large and majestic tree with a large crown and great branches while still young, and covered with a clear gray bark which with age becomes split. The leaves are quite large, alternately pennate with 5 to 9 leaflets, and when fresh they have a peculiar odor. The fruit is an oblong drupe and terminates in a rather long point. The pericarp is rather thin and the endocarp is very fleshy." (*Pasquale D. Luca.*)

33190. PHOENIX DACTYLIFERA L. **Date.**

From Panjgur, India. Received through Mr. Stuart K. Lupton, American consul, Karachi, India. Received March 23, 1912.

"I am informed that to properly mature dates a steady sustained, hot, dry wind for about 30 days is necessary and that this condition prevails nowhere in the consular district except in the neighborhood of Panjgur." (*Lupton.*)

This is probably the famous *Mozati* date introduced under S. P. I. No. 8762.

33191. MISCANTHUS JAPONICUS (Thunb.) Oerst.

From Yokohama, Japan. Purchased from the Yokohama Nursery Co. Received March 23, 1912.

"This has been found in our experimental work to produce a light bulky paper in many respects similar to that made from esparto. The yield of fiber is up to the average of esparto, and there may be areas where the plant can be grown especially for paper making. It thrives on the poorer soils in this region (Washington, D. C.) and has been grown with some success even in Maine; the excessive winter killing here, however, would prevent its becoming a successful crop plant." (*Charles J. Brand.*)

Seeds.

Distribution.—The provinces of Kiangsu, Kiangsi, and Kwangtung in China, and in Japan and the Malay Archipelago.

33192. TERMINALIA CATAPPA L. **Katappa.**

From Sibpur, Calcutta, India. Presented by Maj. A. T. Gage, Superintendent, Royal Botanic Gardens. Received March 23, 1912.

Distribution.—A tree, often 80 feet high, found in the plains of India and generally cultivated in tropical countries.

33194 to 33201. ROSA spp. **Rose.**

From Kew, England. Presented by Dr. David Prain, Director, Royal Botanic Garden. Received March 19, 1912.

Cuttings of the following, procured for breeding experiments:

33194. ROSA BEGGERIANA Schrenk. **Rose.**

Distribution.—A shrub, growing as high as 10 feet, found on mountain slopes from 5,000 to 10,000 feet in elevation from the Caspian Sea and Persia eastward through Turkestan and Afghanistan to Mongolia.

33195. ROSA WEBBIANA Wall. **Rose.**

Distribution.—Dry slopes of the Himalayas in northern India from Kashmir to western Tibet at an elevation of 5,000 to 13,500 feet.

33196. ROSA ACICULARIS NIPPONENSIS (Crepin) Koehne. **Rose.**

Distribution.—The slopes of Mount Fujiyama, in Japan.

33197. ROSA SPINOSISSIMA L. **Rose.**

Variety *hispida.*

33198. ROSA SPINOSISSIMA L. **Rose.**

Variety *lutea.*

33199. ROSA CINNAMOMEA MALYI (Kern) Skeels. **Rose.**

(*Rosa malyi* Kern 1869, in Oesterreichische Botanische Zeitschrift, vol. 19, p. 325.)

Cuttings of this rose were received under the name *Rosa malyi.* In 1902 this form was referred by Keller (Ascherson and Graebner, Synopsis der Mitteleuropäischen Flora, vol. 6, p. 305) to *Rosa pendulina,* which was published by

33194 to 33201—Continued.

Linnaeus in 1753 on page 492 of the Species Plantarum. But on page 491 of the same work Linnaeus published the name *Rosa cinnamomea*, which is generally considered to be the same as *R. pendulina*. Keller uses the name *R. cinnamomea* for the species described under that name in 1759 by Linnaeus (Systema Naturae, ed. 10, vol. 2, p. 1062). According to present rules of botanical nomenclature, *R. cinnamomea* must be used for the first species described under that name, and our plant being a form of that species, is here placed under it.

Rosa cinnamomea malyi was first discovered by Herr Maly on the slopes of the mountains in Dalmatia, and was by him introduced into cultivation.

33200. Rosa macrophylla Lindl. **Rose.**

32201. Rosa fedtschenkoana Regel. **Rose.**

Distribution.—A little known species from Turkestan.

33202. Rosa hemispherica Herrmann. **Rose.**

From Bitton Vicarage, Bristol, England. Presented by Rev. Henry N. Ellacombe. Received March 19, 1912.

Procured for breeding experiments.

33203 and 33204. Diospyros kaki L. f. **Persimmon.**

From Tokyo, Japan. Presented by Mr. T. Watase, Tokyo Plant, Seed & Implement Co. Received March 23, 1912.

Cuttings of the following, quoted notes by Mr. Watase:

33203. "*Uzaemon.* Astringent variety."

33204. "*Myotan.* Late, sweet variety."

"The above cuttings were those with pedicels left from staminate flowers."

33205 to 33234.

From Granada, Spain. Purchased from Mr. Pedro Giraud, at the request of Mr. Walter T. Swingle, Bureau of Plant Industry. Received March 23, 1912.

Quoted notes by Mr. Walter T. Swingle, unless otherwise noted.

"The following collection of grafted plants, rooted cuttings, and scions or cuttings embraces some of the principal varieties of fruits grown in Granada. Dr. Gustav Eisen has shown that many of the so-called Mission varieties of fruits grown in California in the early days really originated in Granada. It is hoped that some of the varieties in the following list will prove to be of considerable value. The shipment was made largely to test the possibility of shipping plants in good order from central Spain to the United States."

33205. Crataegus azarolus L. **Azarol.**

"*Encarnado.* The azarol represents a type of fruit whose cultivation has been much neglected in the United States. These fruits, which ripen from August to October in Spain and France, are from a half inch to an inch in diameter or even more, and have a delicious, subacid flavor, with flesh of a melting character. In flavor and texture its fruits resemble loquats in many respects. These plants are grafted on the common hawthorn and are said to grow in all kinds of soil, both dry land and under irrigation. The variety in question is flesh color, supposed to be of Italian origin."

33205 to 33234—Continued.

33206. POPULUS sp. **Poplar.**

"*Chopo.* This is a remarkable form of poplar commonly grown about Granada, striking because of the almost complete absence of true lateral branches, the stems being clothed with twigs which, as is common in poplars, are sooner or later thrown off by separative layers near the base. Because of this habit of growth, it can be planted very close together. It is said to give an enormous yield of wood, because of its rapid growth and the absence of branches."

"This tree is one of the best suited for forming poplar plantations in humid soil and along the shores of rivers. The poles used in scaffolding are generally made of this species and the wood is that most generally used for the making of boxes for small shipments." (*Pedro Giraud.*)

33207 to 33209. PYRUS COMMUNIS L. **Pear.**

33207. "*Favorita.* This pear is described as follows: Fruit very large, lemon yellow, flesh buttery, sweet, savory. Ripens the middle of August. A summer pear."

33208. "*Pera de Roseta.*"

33209. "*Pera de Aragon.* Fruits large, yellow, flesh very fine, very juicy and sweet, ripening December and January. This is perhaps the pear which is exported all through southern Spain and even to Algeria and Morocco throughout the winter months. This pear, which is said to come from Aragon, is a very broad, short fruit and can be shipped great distances, standing the roughest kind of handling. In fact, the pears are often handled like so much coal."

33210 to 33212. MALUS SYLVESTRIS Miller. **Apple.**

33210. "*Pero Blanco de Ronda.* In Spain all green apples, especially those of elongated form, are called, not *manzana*, but *peros*, which has led to considerable confusion on the part of foreigners because of the similarity of this latter word with *pera*, which is pear. Perhaps because of this fact many of the best Spanish apples seem to be relatively little known to the horticulturists of other countries. This variety, the famous *Pero Blanco de Ronda*, often called simply *Pero de Ronda*, is a very delicious apple and one which is well adapted to export trade. It is a winter apple, ripening in Spain in the month of January."

33211. "*Pero Blanco de Duscal.* This is another variety of *pero*, about which no information could be secured except that it is a winter variety ripening in January."

33212. "*Pero Encarnado de Priego.* Another variety which the name would indicate to be flesh colored; said to ripen from November to January. No description could be found of this variety."

33213 and 33214. CYDONIA OBLONGA Miller. **Quince.**

33213. "*Antequera.* The Spanish quinces are famous for their high quality, and the best are said to come from Antequera."

33214. "*de Antequera.* Probably the same as 33213."

33205 to 33234—Continued.

33215 to 33218. AMYGDALUS COMMUNIS L. **Almond.**

33215. "*Malagueña.* This is the famous Jordan almond, which is exported so largely from Malaga. I was told at the American consulate that some $800,000 worth of almonds had been exported from the port of Malaga alone during the year 1911. These exports consist largely of the *Malagueña* variety. Jordan almonds are classified by the wholesale dealers as to number per ounce. They run from 15 to 30 or more per ounce. The English market takes the very large size, the American market taking most of the 30's and other small sizes. Out of 100,000 boxes only three or four hundred would be as large as 15 to 16 to the ounce. This is called the export variety by the cultivators around Malaga, after the Spanish word 'exportacion.' It is grown in very dry situations and is properly speaking a dry-land crop of very great importance. Pedro Giraud, from whom the plants were secured, says of almonds in general that they give best results in warm, dry, rocky, limestone soils."

33216. "*Almendro de Esperanza.* A variety of almond recommended for culture by Mr. Giraud."

33217. "*Almendro de la P.* This is said to be a large, early variety of almond."

33218. "*Almendro del Desmayo.* This is an especially valuable variety of almond for testing on account of its hardiness. Pedro Giraud says: 'The variety of almond *del Desmayo* is the most resistant to frost, which is caused by the peculiar attachment of the flower, which is turned downward, its corolla and sepals protecting it against the action of frost, in this way insuring the fertility of this sort when all other varieties would have their crops destroyed."

33219 to 33221. AMYGDALUS PERSICA L. **Peach.**

"As to these three varieties of peaches no definite information was available, but as the Spanish peaches are famous for their quality, any variety which is propagated is likely to be good."

33219. "*Vanqueur.*"

33220. "*Campiel Amarillo.*"

33221. "*Tempeanos Junio.*"

33222 and 33223. PRUNUS AVIUM L. **Cherry.**

33222. "*Garrafal.* A giant cherry having firm, sweet flesh."

33223. "*Garrafal le Grand.* Another large variety of cherry, possibly of French origin. Said to ripen in June."

33224. PRUNUS DOMESTICA L. **Plum.**

"*Ciruela de Fraile.* A variety ripening in June, said to be of excellent quality."

33225. OLEA EUROPEA L. **Olive.**

"*Gordal* or *Sevillana.* This is the famous variety which yields the large, green, pickled olives so common in America. It is largely cultivated in the zone immediately about Seville, where its culture is said to succeed better than in any other part of Spain. They run from about 70 to 200 per kilo, or about 30 to 90 to the pound. These enormous olives are of beautiful appearance, but by the Spaniards are not considered to be of as good quality as some

33205 to 33234—Continued.

of the other varieties, such as the *Manzanillo*. The *Sevillana* variety is graded very carefully, running 70, 80, 90, 100, and so on per kilo, and this grading requires to be done very carefully, making the olives for the American market much more expensive than for the Argentine and other markets which do not require such an excessively careful grading."

33226. OLEA EUROPEA L. **Olive.**

"*Hermanos*. This is probably the *Quatro Hermanos* olive as noted by Dr. Eisen in the vicinity of Granada, which variety, as the name indicates, is peculiar in having four fruits borne together, arranged in the form of a cross. Beyond this but little is known as to the variety, which may, however, be of importance, since very good olives are grown in this region."

33227 to 33229. PUNICA GRANATUM L. **Pomegranate.**

"Since the city and province of Granada get their name from the pomegranate, it is to be expected that this fruit would have attained great perfection in this region. The following collection includes three of the principal varieties as grown about Granada. Mr. Pedro Giraud recommends that they be grown in espalier against a wall, where they can be irrigated a little during the hot, dry Spanish summer. There is a large exportation of pomegranates to England, and a small quantity reaches the United States. These are not shipped from Granada, but from ports in the east of Spain, especially Valencia."

33227. "*Negro monstruoso*."

33228. "*Granado de Jativa*. This is said to be one of the most appreciated varieties in the region of Granada and is said to be without seeds."

33229. "*Granado de Rogises*."

33230 to 33233. FICUS CARICA L. **Fig.**

"The figs of Granada are famous for their abundance and good quality. Dr. Gustav Eisen has shown that the California mission fig came originally from Spain and probably was imported from Granada. It is difficult to imagine a variety better adapted to California conditions, and it is hoped that some of the following will prove equally well suited."

33230. *Albanes*.

33231. *Pata Mulo*.

33232. *Isabella*.

For description see No. 32878.

33233. *Breval Negra*.

33234. CORYLUS AVELLANA L. **Hazelnut.**

"*Rouge Ronde*. Spain furnishes the bulk of the hazelnuts that enter into the world's commerce, whole regions being given up to this remunerative culture in the north of Spain. It is said to prefer rather light, cool soils and to grow well with more or less shade. The trees are set at short distances apart. From its name, meaning the 'round red,' the variety would seem to be of French origin."

33235. CARICA PAPAYA L. **Papaya.**

From Philippine Islands. Secured through Mr. Alvin R. Schwab from Mr. J. A. Dunn of Akron, Iowa, by Mr. E. C. Green, in charge, South Texas Plant Introduction Garden, Brownsville, Tex. Received March 22, 1912.

Seeds.

33236 to 33238.

From Buitenzorg, Java. Presented by The Director, Department of Agriculture. Received March 23, 1912.

Seeds of the following:

33236. CORCULUM LEPTOPUS (Hook. and Arn.) Stuntz.

Seed of this polygonaceous climber were received under the name *Antigonon leptopus* Hook. and Arn. This generic name, used but not technically published in 1837 by Endlicher (Genera Plantarum, p. 310), is antedated by Antigona, published in 1827 by Velloso (Flora Fluminensis, p. 186, vol. 4, pl. 145). As no other name has been suggested for the genus, Corculum, the diminutive of the Latin "cor" (heart), is used in reference to the diminutive heart-shaped rose-colored flowers.

Variety *alba*. See No. 19619 for description.

33237. CITRUS DECUMANA (L.) Murray. **Pomelo.**

"*Djeroek pandan.*"

33238. DRACONTOMELON DAO (Blanco) Merrill and Rolfe. **Dao.**

See No. 32336 for previous introduction.

33239. BRASSICA PEKINENSIS (Lour.) Skeels. **Pai tsai cabbage.**

From Nanking, China. Presented by Mr. Joseph Bailio, University of Nanking. Received March 20, 1912.

Shantung.

33241 to 33248. SACCHARUM OFFICINARUM L. **Sugar cane.**

From Alighur, United Provinces, India. Presented by Dr. Parr, Agricultural College. Received March 23, 1912.

Cuttings of the following:

33241. *Saretha.*
33242. *Khera.*
33243. *Merthi.*
33244. *Dhaur.*
33245. *Kinar.*
33246. *Chiu.*
33247. *Mungo.*
33248. *Sonabeli.*

33249. PHRAGMITES KARKA (Retz.) Trin.

From Japan. Purchased from the Yokohama Nursery Co., Yokohama. Received March 26, 1912.

Udono-yoshi. "A perennial grass growing in marshy places. Its roots creep under the ground and shoot up stalks to a height of about 6 feet, bearing panicles at the tops. The stalks resemble small bamboos, being slender, light, and lustrous, and they are used to make blinds. The thickness of the stalk depends on the fertility of the ground. Those growing by seacoasts are slender, flexible, and strong. This grass is planted in watersides to protect mud from being washed away by waves. Its young sprouts are edible. Those produced in Udono—village of Province Setsu—are called Udono-yoshi, and are very famous for their large and long stalks. They are used to make *Shichiriki*, a musical instrument." (*Useful Plants of Japan, Agricultural Society of Japan, 1895, pp. 222–223.*)

See No. 21957 for previous introduction.

33250 to 33255. ARALIA CORDATA Thunb. **Udo.**

From Japan. Presented by Prof. Y. Kozai, Director, Imperial Agricultural Experiment Station, Nishigahara, Tokyo. Received March 26, 1912.

33250 to 33255—Continued.

Roots of the following; quoted names and notes by Prof. Kozai:

"Varieties universally cultivated in Kyoto."

33250. "*Yozaemon.* Red, early."

33251. "*Hanza.* Late."

33252. "*Fushiaka.* Node red, middle."

"Varieties universally cultivated in Saitama, near Tokyo."

33253. "*Shiro.* White, very early."

33254. "*Nakate Usu-Aka.* Rosy, middle."

33255. "*Kan-Udo.* Red, extra early."

33256 and 33257.

From Algeria. Presented by Dr. L. Trabut, Algiers. Received March 27, 1912.

33256. TYPHA ELEPHANTINA Roxb.

From Kodjaberi.

"This giant Typha is closely related to the rare *T. elephantina* of Java. This Typha has leaves which may attain 4 meters in length. It occurs in moist regions, but not in water. The tufts have a remarkable appearance—one would say a field of Phormium. The leaves are carinate, thick, but not very solid. It is cultivated for cooperage in Algiers, but the leaves break." (*Trabut.*)

Roxburgh, Flora Indica, vol. 3, p. 566, calls this elephant grass and says elephants are very fond of it.

Distribution.—Marshes throughout India from the northwest to Assam and southward; also in Algiers.

33257. SACCHARUM SPONTANEUM L.

From Bona.

33258. CACARA EROSA (L.) Kuntze. **Yam bean.**

From Kingston, Jamaica. Presented by Mr. William Harris, Superintendent of Public Gardens. Received March 27, 1912.

"Flowers white. Seeds red. The root is formed of a number of simple cordlike fibers, several feet in length, stretching under the surface of the ground, bearing in their course a succession of tubers.

"The beans are poisonous, but the root affords a very plentiful supply of very wholesome food. The produce of three plants is usually sufficient to fill a bushel basket. The tubers may either be boiled plain, in which state they are a very good substitute for yams and other roots in common use, or they may be submitted to a process similar to arrowroot, and a starch obtained. This starch is of a pure white, and is equal in every respect to arrowroot. To the taste it is very palatable, is easily digested, and is employed for custards and puddings. Even the trash left after obtaining the starch, and which in the preparation of arrowroot is lost, may, when thoroughly dried, be formed into a palatable and wholesome flour.

"A very excellent flour may also be obtained by slicing the tubers, drying them in the sun, and then reducing to a powder.

"This plant is deserving of being more generally cultivated than it has heretofore been. It ought in a great measure to supersede the arrowroot in cultivation. It can be planted at any season of the year, and the roots are fit for digging in the course of four or five months; the return is infinitely greater than that from arrowroot, and the

proportion of starch also is abundant, so that it can be brought to market at so cheap a rate as to admit of being employed by the calico printers in place of potato starch.

"The Kew Bulletin for 1889, page 17, quotes from letters from Dr. Trimen, Director of the Botanic Gardens in Ceylon, pointing out that the pods when young are not poisonous, but may be eaten like French beans. He wrote: 'They are quite new to Ceylon * * *. The young pods served like French beans are an admirable vegetable, tender and sweet * * *. What constitutes their superiority over the ordinary French beans is the absence of any fibrous string along the sutures of the pod. The large size is also an advantage; they are often 10 or 12 inches long.'

"In Jamaica the seeds are generally sown in March or April. But they can be sown at any time. At Hope Gardens seeds were sown in September. The pods are ready for use as French beans seven months after sowing, and when pods are quite ripe, nine months after sowing, the yams are fit to dig. From one seed sown at Hope Gardens five yams were dug weighing altogether 14 pounds. They generally vary in size from 1 foot to 18 inches long and 4 to 6 inches in diameter." (*Bulletin No. 44 of the Botanical Department of Jamaica, June, 1893, p. 4.*)

33259 and 33260.

From Para, Brazil. Presented by Mr. Walter Fischer, Campo de Cultura Experimental Paraense. Received March 29, 1912.

Seeds of the following, taken from fruits brought in by Mr. Fischer:

33259. LECYTHIS USITATA Miers. **Sapucaia nut.**

"This is a large tree of the monkey-pot family, native of forests in the region of the Amazon. It has large, urn-shaped fruits of a hard, woody texture, about 6 inches in diameter, with lids measuring about 2 inches across. When ripe the lid separates from the capsule, emitting a sharp sound, which when heard by the monkeys is a signal that the nuts are falling and a scramble and fight to be the first to obtain them ensues; on this account few are left for the trader, and the export is consequently small. The common name of monkey-pot is applied to the capsule when empty." (*Dictionary of Popular Names of Economic Plants, John Smith, 1882.*)

See No. 25435 for previous introduction.

33260. THEOBROMA GRANDIFLORA (Willd.) Schum. **Cupuacú.**

"This is a very common fruit here. Its odor and taste may be somewhat nauseating to some, at least if received in too large quantities, but it is really a very luscious fruit. It is used here considerably for making jellies and preserves, which have an aftertaste which may not be liked at first, but which, like that of the guava, when once acquired would become very popular." (*Fischer.*)

Distribution.—Damp shady places in the forests of the Amazon Valley in the provinces of Amazonas and Para, in Brazil.

33261. EUGENIA sp.

From Para, Brazil. Presented by Mr. Walter Fischer, Campo de Cultura Experimental Paraense. Received March 29, 1912.

"This is a small-sized tree about 6 inches in diameter and 20 feet high. The fruit is bright red like a wild goose plum and of the same size. The peel or rind is somewhat thick, but edible like the soft juicy pulp that surrounds the one or two large hairy seeds; the flavor is slightly resinous and also suggests strawberry. It makes a good sauce when stewed and is also very good raw." (*Fischer.*)

33262. STENOLOBIUM SAMBUCIFOLIUM (H. B. K.) Seemann.

From La Mortola, Ventimiglia, Italy. Presented by Prof. Alwin Berger, Director, Botanic Gardens. Received March 29, 1912.

Distribution.—An erect shrub, closely related to *Stenolobium stans* (L.) Seemann, from which it differs in having a white-lobed corolla. Found in the vicinity of Montan, Peru, at an elevation of 8,000 feet.

33263. TELFAIRIA PEDATA (Smith) Hook.

From Zanzibar, East Africa. Presented by the Director of Agriculture, Zanzibar Government. Received March 29, 1912.

"A cucumberlike vine, growing over trees of considerable height throughout tropical Africa. The fruit sometimes attains a weight of 60 pounds and contains a large number of oily seeds about 2 inches in diameter. The oil from these seeds is said to be largely used for culinary purposes by the natives. The flowers are of two forms of varying shades of lavender and are several inches across." (*S. C. Stuntz.*)

See No. 23731 for previous introduction.

33264. SALSOLA ARBUSCULA Pallas. **Saxaul.**

From Algiers, Algeria. Presented by Dr. L. Trabut. Received March 29, 1912.

"Saxaul, originally from Turkestan, sown in the Sahara at El Ouad in 1895 and in 1900. It flourishes vigorously in the dunes. Seed collected at El Ouad, south of Biskra." (*Trabut.*)

See Nos. 24555 and 28976 for previous introductions.

33266. CUCUMIS MELO L. **Muskmelon.**

From Persia. Presented by Mr. C. A. Douglas, American Mission, Teheran, Persia. Received March 22, 1912.

"Persian muskmelon. Found in Persia only at the town of Avonikaf, 50 miles from Teheran. An extremely hot climate and a desert country watered from mountain streams. The soil is a red clay, mixed with much gravel. The melon seeds are planted along the little ditches where the water may reach them weekly. They are not sown until late in May. The melon matures late in October and can be kept until December in a dry place.

"The melon is in size and shape something like a small watermelon. On the outside it is dark green, rough, with coarse, light-colored markings. The flesh is yellow, shading into green, quite firm in texture, yet full of water. In taste, it is remarkably sweet and of a peculiar luscious flavor. It is surpassed by no other melon found in this land of the melon, so that even the natives are willing to pay 20 cents apiece for them." (*Douglas.*)

33268. LANGUAS GALANGA (L.) Stuntz. **Galangale.**

From Peradeniya, Ceylon. Presented by Mr. H. F. Macmillan, curator, Royal Botanic Garden. Received March 9, 1912.

A zinziberaceous plant from the eastern Tropics, whose aromatic root furnishes the galangale used by the natives for indigestion.

See Nos. 32036, 32037, and 32837 for previous introductions.

33270. MELILOTUS OFFICINALIS MICRANTHUS Schulz.

From Krassny Koot, Samara, Russia. Collected by Mr. W. Bogdan. Presented by Dr. R. Regel, Bureau of Applied Botany, St. Petersburg, Russia. Received March 27, 1912.

Distribution.—Southeastern Russia and Turkey, and eastward through Armenia, and Persia to Turkestan.

33271. MYRTUS ARAYAN H. B. K. **Arayan.**

From Rio Verde, San Luis Potosi, Mexico. Presented by Mr. F. Foex, Director, Agricultural Experiment Station of Rio Verde, through Mr. William A. Taylor, Assistant Chief, Bureau of Plant Industry. Received March 8, 1912.

"These seeds are from a fruit tree of the State of Jalisco. This fruit is well appreciated by young boys, and, above all, by young girls, but not by older people, because they are acid. But they are delicious—First, cooked with sugar; second, dried in sugar powder; third, in sauces for puddings, etc.; fourth, in sirups. These fruits are very small, but when the young trees are 18 months old they can be budded with larger and better varieties." (*Foex.*)

See No. 30499 for previous introduction.

33272 to 33277.

From Valencia, Spain. Presented by Mr. R. Frazer, jr., American consul, at the request of Mr. Harry B. Chase, Riverside, Cal. Received March 29, 1912.

Seeds of the following; quoted notes by Mr. Frazer:

33272 to 33274. CITRULLUS VULGARIS (L.) Schrad. **Watermelon.**

"The watermelon of this district, and indeed of all Spain, appears to be a fixed species that has undergone very little modification for centuries. The varying degrees of color and different percentages of sugar that distinguish the pulp of fruit grown in different localities in Spain appear to depend almost entirely on soil conditions rather than varieties, and the Valencia watermelon still differs little from similar fruit grown in northern Africa. It does not attain very great size, but has a remarkably thin rind and highly colored meat, and is of superior quality.

"The principal pests from which melons of all kinds suffer here are mildew, scale, and snails. The scale, which is said to belong to the family of the rose scale, is the most difficult to combat successfully, especially when dull, foggy, warm weather conditions favor its rapid propagation. The dry, parching winds that blow at irregular intervals during the summer from the semiarid interior of the country effectively arrest the progress of this scale and if continued two or three days will exterminate it altogether. Snails are dealt with in a very practical and economic way by turning flocks of ducklings into the melon plantations affected."

33275 to 33277. CUCUMIS MELO L. **Muskmelon.**

33275. "*Bronceado.* This melon is oval or slightly conical in shape, with very thick meat and small seed cavity."

33276. "*Negro.* This melon is of a very dark unchanging-green color, of an elongated oval or cylindrical shape and unusually large, weighing 9 to 16 pounds."

33277. "*Bronceado* and *Negro* seed mixed."

"These are the genuine winter melons of this zone, they are by far the best varieties and receive the greatest care in selection and cultivation. Both at their best are wonderfully fine, and probably nothing superior of their kind can be produced in any part of the world.

"The fame of the fine winter melons grown in this district, of which 12,000 to 15,000 tons are exported annually, has extended over the

33272 to 33277—Continued.

33275 to 33277—Continued.

greater part of Europe. Small shipments have been made in recent years to New York and Boston, but the total lack of cold-storage facilities in ships visiting this coast and the consequent very large percentage of deterioration in transportation has generally rendered such experiments unprofitable.

"The Valencia system of melon raising requires seed beds and transplanting. The seeds are planted in the former in clusters of five or six on a layer of animal manure wrought into a thick paste with the addition of water, each cluster being deposited in slight depressions in the surface about 8 or 9 inches apart. The bed is then covered with a light sprinkling of dry, pulverized manure which is kept moist by occasional spraying with water. Transplanting takes place when the two lateral branches of the plant are thrown out and the tip of the central growth is just appearing. The more delicate plants are discarded and only the healthiest and most vigorous utilized.

"In preparing the soil for transplanting, the desired porousness is attained here by mixing with it the sea sand used as hog bedding, to which is added fertilizer in the proportion of 1 sack of ammonia sulphate, the favorite nitrogenous fertilizer in this region, to 10 sacks of the sand bedding. The rows are separated from 6 to 7 feet, and the distance between each plant is 30 to 36 inches. Irrigation in the absence of rain is given at 8-day intervals.

"In the Alicante district, a little to the south of this, the seed are planted definitely in the open in pits about a yard apart in which organic manure has been mixed with the soil.

"It is very difficult to obtain selected melon seed true to variety on the open market in this country. Each farmer reserves his own seed by a very practical method of selection, as only the seeds of fruit distinguished at the family table by its sweetness, flavor, and thickness of pulp are set apart for future planting or exchange with neighboring farmers. This process of selection continued through a succession of years appears to be remarkably successful, attaining such uniformity and high quality of product that it is not unusual to find a whole plantation without a single flavorless specimen among its crop. The smallness of Valencia farms, however, occasionally proves an obstacle in selecting and preserving the purity of varieties, as the proximity of inferior stock may easily nullify the care and labor of the most intelligent farmer in melon raising.

"Winter melons are harvested in the early fall and are suspended in loops of esparto cordage from nails in the beams of roofs and lofts, where they keep with but little deterioration for six months or more."

33278. CLEMATIS sp.

From Tangier, Morocco. Procured by Mr. Walter T. Swingle, of the Bureau of Plant Industry, from Mr. T. Goffart, of Tangier. Received March 25, 1912.

"Seeds of an interesting species growing abundantly in Mr. Goffart's garden. I think it would be interesting for trial in Florida and California and perhaps with protection even as far north as Washington." (*Swingle.*)

BOTANICAL NOTES AND PUBLICATION OF NEW NAMES.

32399. Chaetochloa costata (Roxb.) Skeels.
32430. Rytilix granularis (L.) Skeels.
32435. Mnesithea exaltata (L.) Skeels.
32609. Vigna cylindrica (Stickman) Skeels.
32613. Syntherisma consanguinea (Gaud.) Skeels.
32795. Callistemon citrina (Curtis) Skeels.
32924. Cajuputi cuticularis (Labill.) Skeels.
32928. Cajuputi pulchella (R. Brown) Skeels.
32929. Cajuputi wilsoni (Mueller) Skeels.
32968. Tecoma pandorana (Andrews) Skeels.
32970, in note. Tritoma macowani (Baker) Skeels.
32971. Tritoma natalensis (Baker) Skeels.
32972. Tritoma nelsoni (Masters) Skeels.
33061. Sophora davidi (Franchet) Skeels.
33199. Rosa cinnamomea malyi (Kern) Skeels.
33236. Corculum Leptopus (Hook. and Arn.) Stuntz.

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